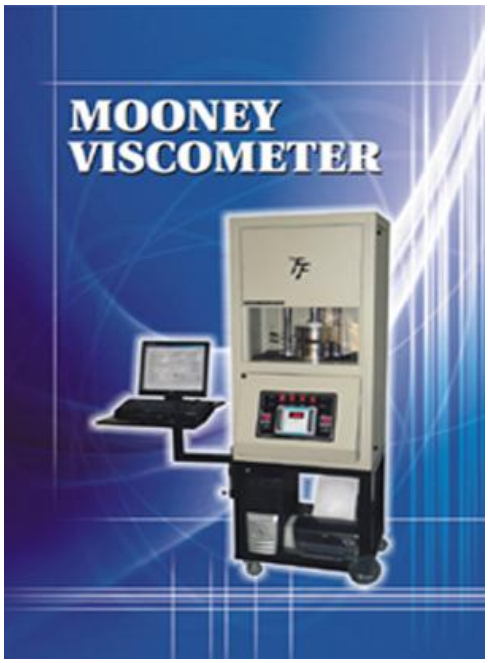
ViscoSoft®

Users Guide



April 2007

Busysoft

We make software that works as per you

Future Foundation

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Viscosoft User Manual

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Quick guide

Installation

Install Mooney Viscometer Machine
Install Computer
Install a printer

Install and start software

Install **Viscosoft software**
Install **ADC connecting device** and **link it with Viscometer**
Start software
Set parameters with **Setup** option
Change company information

Software implementation

Add required compounds from **Compound details** option

Daily running

Run testing on the above compounds from **Specimen Test Details**
Print test report
Print statistical analysis reports
Add more compounds if required and run tests

Periodic (Week, Month, Year, Period)

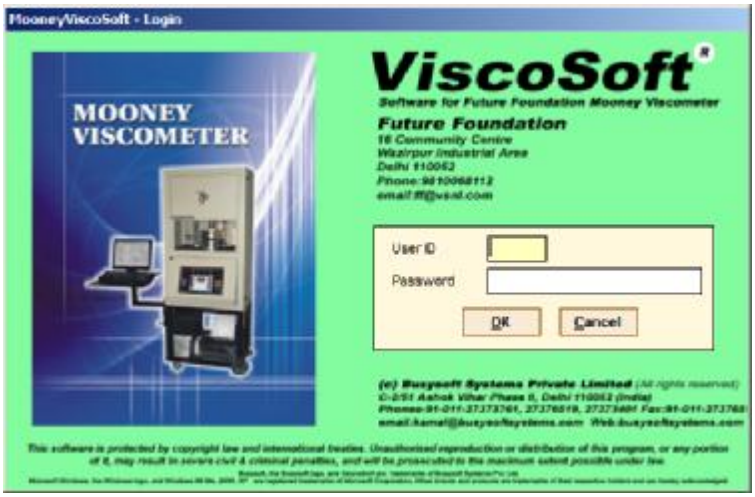
Print advance statistical analysis
Take backup/maintenance

When ever required

Run auto calibration

Starting Viscosoft

On double clicking Mooney Viscosoft icon on the desktop screen following windows appears.



Note: When starting the software for the first time a screen may appear showing that a backup/compact repair of database is due. Click on OK or cancel in all cases. Please read section on this in Setup option chapter.

This is main login screen of Viscosoft. All authorized user are allotted a user id and a password. Type the user ID and password as allocated by the Supervisor of the software. (Manager who allots the software security options to each user.)

Type the following information in the windows.

User ID ID of the user who is going to work on the software
Password Type the required password.

If you type a wrong ID or password the software will not allow you to enter into the software functions.

All the security function will be set as per your security level set by the supervisor.

Main Menu

This is the main menu of ViscoSoft software. The options in the main menu of the software are.

Specimen Test Details: This is the main option. All Mooney Viscometer tests can be conducted using this option. This option stores specimen details along with graphs and result analysis.

Compound Details: This option stores list of all the stocks. The details of stock specimen, which needs to tested are stored in this option.

Data Analysis: This option helps in statistical data analysis of the specimens.

Auto Calibration: This option contains calibration standard specifications of your Mooney Viscometer. User can recalibrate equipment if required using this option.

Data Maintenance: This option is for taking data backup.

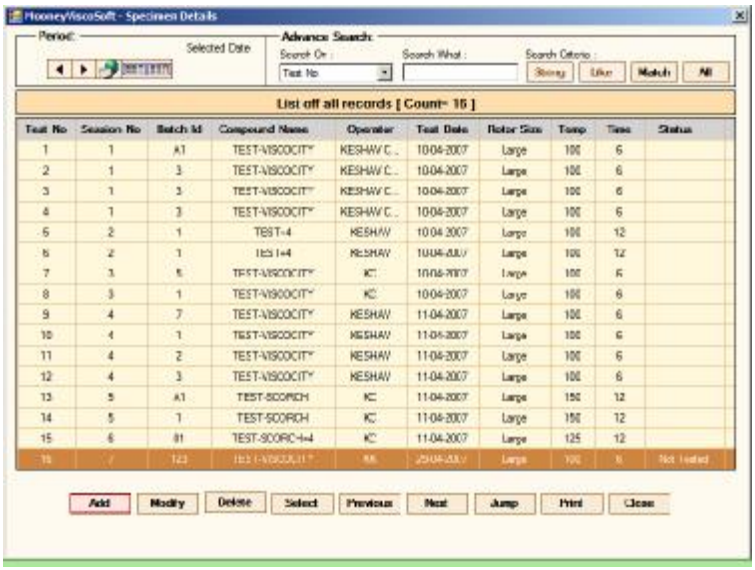
Setup: This option is for master setup, Graph setup, Printer and reporting setup, security setup and other master information setup. These parameters are to set only once.

Tools: This option is for working with Notepad, Calculator and Calendar.

Exit Quit from program.

Specimen Test details

On clicking specimen test details following screen appears. This is list of the entire tested specimen in order of Test no. The cursor is placed on the last tested specimen.



Specimen list details and options

The screen has three main options

Period: This option helps in choosing period of conducted tests for showing details.

Various buttons in the option are

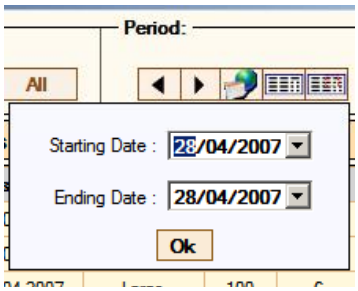
Previous date: The option shows list of specimen for previous date.

Next Date: The option shows list of specimen for Next date

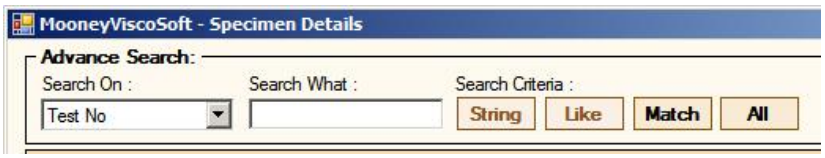
For a Date: Shows list of records for a particular date. The screen shows calendar to Choose the date. Select the required date from the calendar and click OK.

Select All: The option shows list of records of all dates.

For a period: The option Shows list of records for a particular period. The screen shows starting and ending date. Select or type the required period and click OK

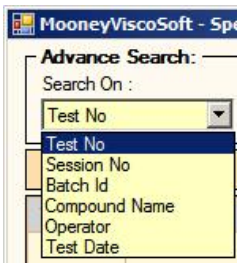


Advance Search: This option helps in searching the conducted tests details on various methods.



The details in this option are

Search on: You can search the details on the basis of Test No., Session No., Batch Id, Compound Name, Operator and Test Date.

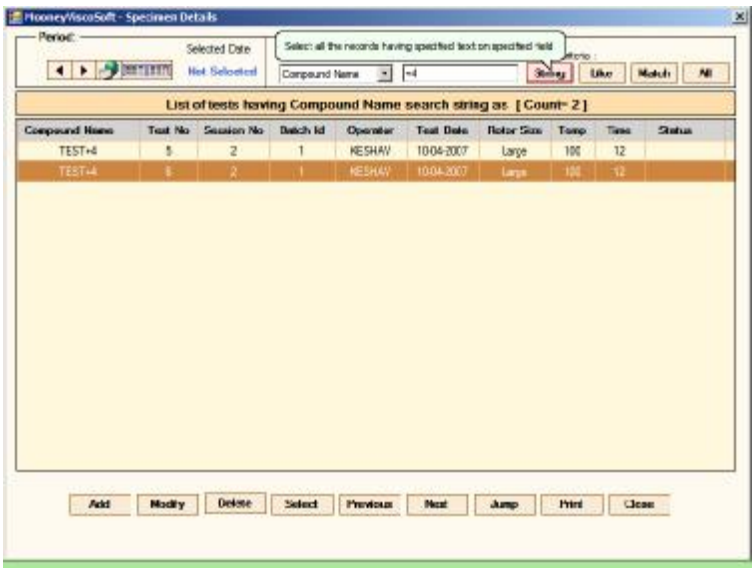


Search What: Type the required details to be searched. The required search will depend upon above search on parameter. For example to search details of all the specimen tested for a compound name, you should select Compound name as above and then type the name of compound to be searched. You can also type few starting or ending, or any middle characters in the text for the information to be searched.

Search Criteria: User can search matching details depending upon the typed value. The details that can be searched are

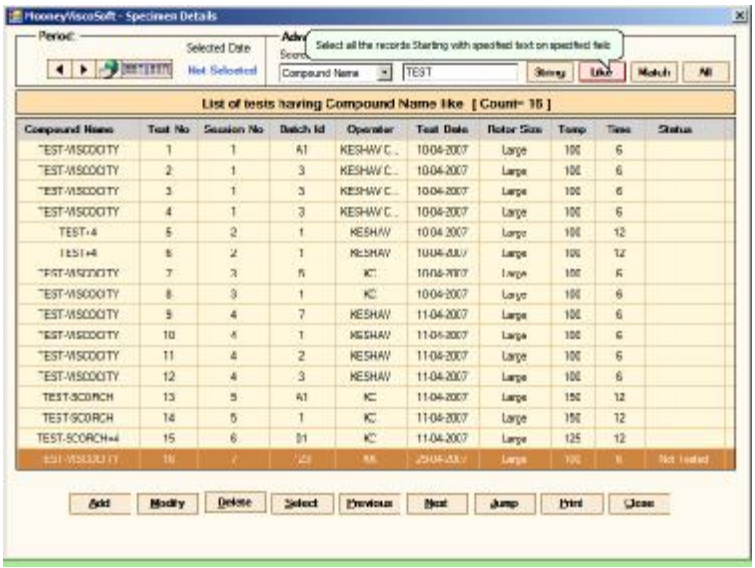
(1) **String**- the records, which contain typed value in string.

Following example shows **Search on:** Compound name **Search what**: +4 **Search Criteria:** String



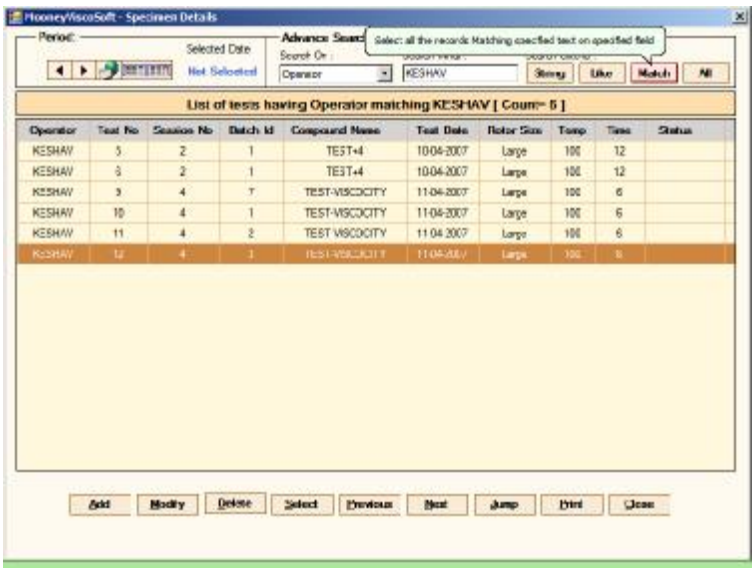
(2) **Like**: Records, which starts with typed value in string.

Following example shows **Search on:** Compound Name **Search what:** TEST **Search Criteria:** Like



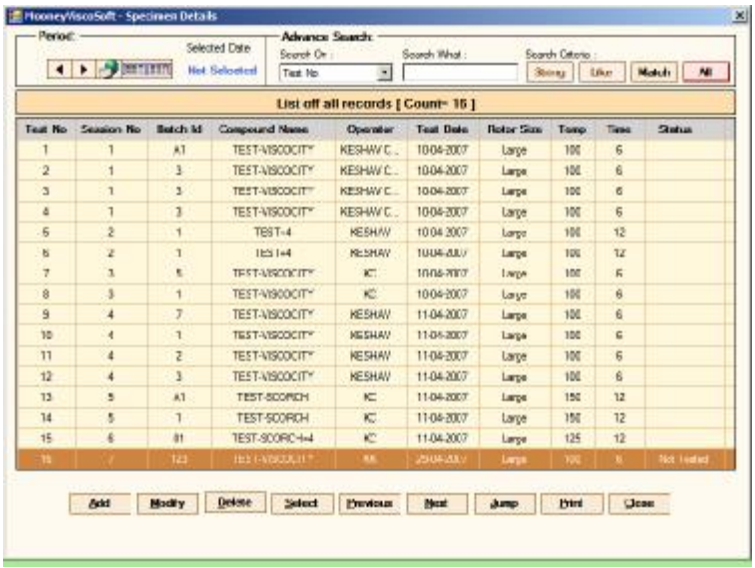
(3) **Match**- the records, which matches typed value in string.

Following example shows **Search on:** Operator **Search what**: KESHAV **Search Criteria:** Match



(4) **All-** All the records irrespective of any criteria

Following example shows **Search on:** Test No. **Search what**: _____ **Search Criteria:** All



List of specimen (records): This screen is the list of all tested specimen. The list contains following columns.

Test No.	This is a running serial number of the tested specimen.
Session No.	This is Session number of the tested specimen.
See the Specimen details as explained below.	
Batch ID	Allotted batch ID.
Compound Name	Name of the compound tested
Operator	Name of the operator
Test Date	Date of testing
Rotor Size	Rotor Size
Temp.	Temperature of the test
Time	Time duration of the test
P/F	**(P)** ass/**(F)** ail result of the test

The options available under this option are

Add Add a new specimen details for testing

Modify Modify the specimen details for testing

Delete Delete the current specimen. You will be asked to reconfirm deletion.

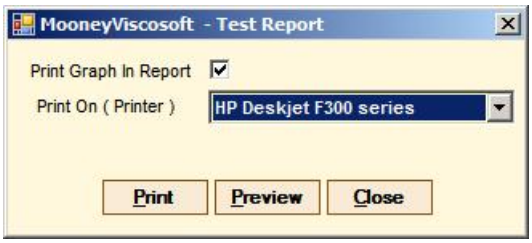
Select Select and shows the current specimen details and results

Previous Show previous specimen

Next Show next specimen

Jump Go to a particular specimen number. The screen will show the details of the required specimen.

Print Print or preview specimen result details of the current specimen. Following screen appears:



The parameters in the above screen are

Print Graph in Report: Tick it as þ to show graph in report.

Print On (Printer): Select the printer on which you want to print the report.

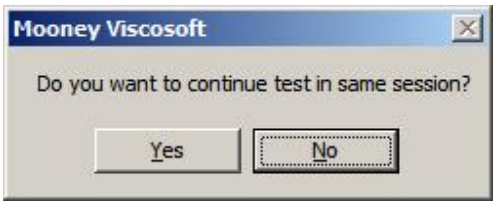
The options in the screen are

Print To print report on the selected printer.

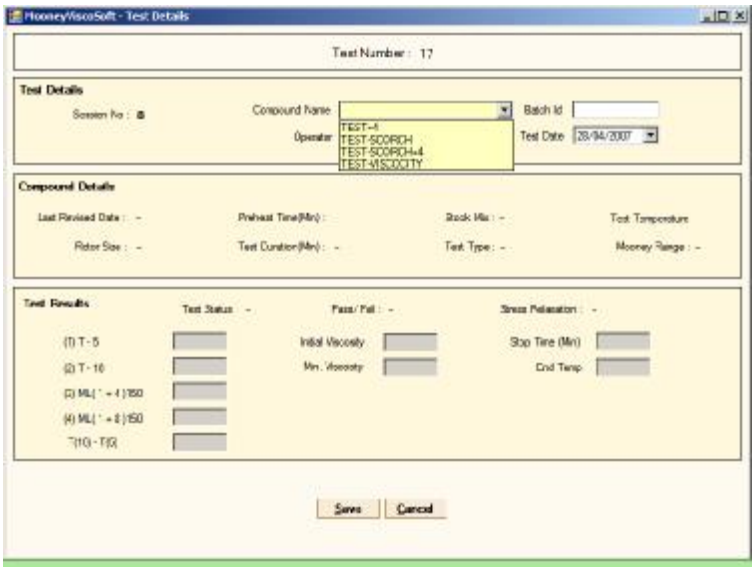
Preview Show preview of the report before printing.

Adding Specimen

Click on **Add** option as shown in specimen list screen above. Following screen appears.



Press 'Yes' in case if you want to add the specimen in the same session as previous test. Press 'No' to allot new session number.



Following are the various parameters that are required to be filled.

Test Details

Test Number This is the test number of the specimen. It is allotted automatically. In the above screen this number is 17. You cannot change this number.

Session No. This is session number of the specimen. It is allotted automatically. In the above screen this number is 8. You cannot change this number. A session is a number allotted to number of tests done in a group. It helps in statistical analysis, probability studies.

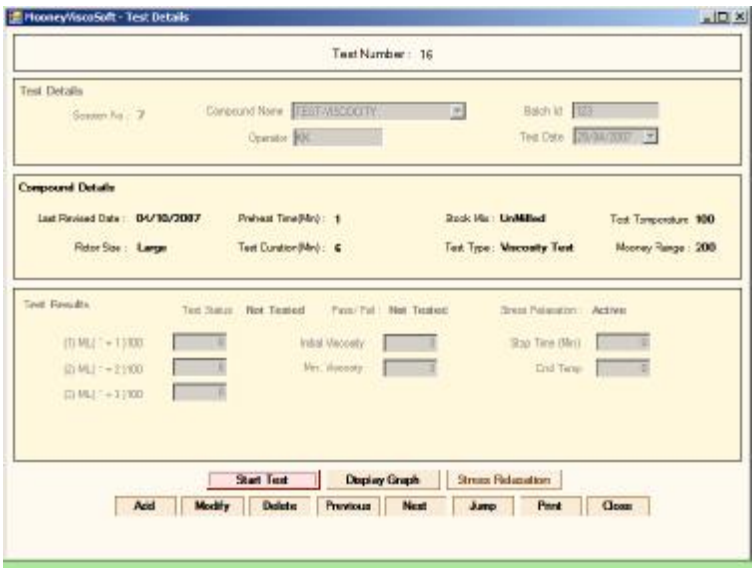
Compound name Select the compound name to be tested. A list of compound is shown for selection. Press Enter to select the compound.

Batch ID This is the batch id of the specimen being tested. Type the required ID and press Enter.

Operator This is name of the operator conducting the test. Type the name and press Enter.

Test Date This is the date of testing in dd/mm/yyyy (day/month/year) format. The box shows current date automatically. You can change the date by typing or by clicking down arrow button shown next to date. A calendar will appear for selecting the date. After selecting the date press [Enter] to continue.

On pressing [Enter] the focus is placed on [Save]. On pressing [Save] button the details are saved and following screen is shown.



The other details shown are:

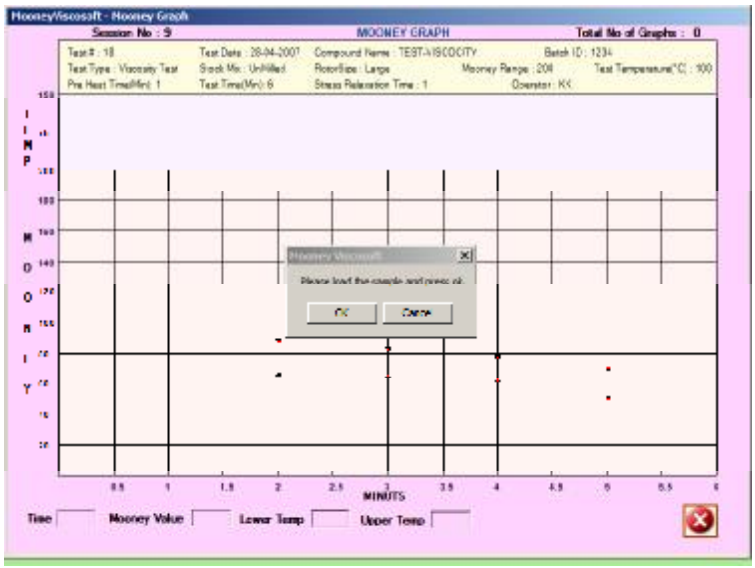
Compound details:

Last revised date	Date of last updating of compound details.
Preheat Time (Min.)	Preheat time required for testing
Stock Mix	Type of stock mix.
Test Temperature	Temperature at which test is conducted. This should be same as set on the temperature controller.
Rotor Size	Size of the rotor used
Test Duration (Min.)	Duration of test in minutes
Test Type	Type of test namely Viscosity test or Scorch Test
Mooney range	Range of Mooney value

Testing Specimen

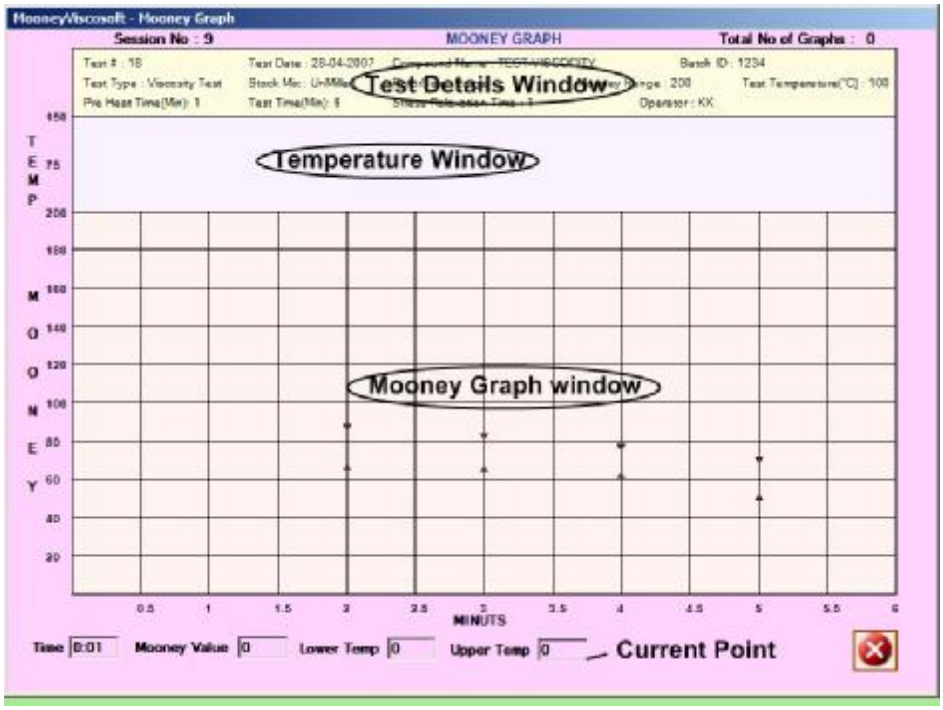
Loading specimen and testing

Click on **Start Test** to test the specimen. Following screen appears.



Prepare and load the specimen and press OK. The Mooney Viscometer Machine will start functioning and a graph will appear on the screen.

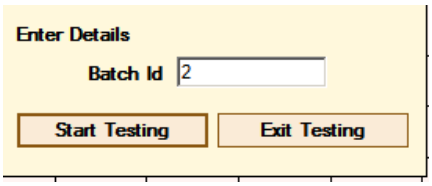
Following details are shown on the graph screen.



The graphs shows:

1. The time period in Minutes on X-AXIS divided into 12 parts
2. Mooney Values on Y-AXIS divided into 10 parts.
3. Temperature on Y-AXIS divided into 3 parts
4. Current point at the bottom of screen showing the current time, Mooney value, Lower and upper Temperature.

After the completion of test a screen showing that test is completed appears. If you want to add another test click on 'Yes'. Following screen appears.



Type the Batch ID and click on Start Testing to test next sample. On clicking this option the process of testing starts again for this batch.

Click on Exit Testing if you do not want to run the test. The screen shows the graph of the tested specimen.

The graphs has following option buttons

Ê	Print report on printer
x	Shows Stress relaxation test result.
Ì	Add new specimen for testing in the same session
•	Shows all the specimen graphs in the session.
| t	Shows First specimen graph in the session
t	Shows previous specimen graph in the session
u	Shows previous specimen graph in the session
u |	Shows last specimen graph in the session
U	Closes this screen and goes back to test specimen details screen.

Print report on printer

On clicking this option following screen appears

The parameters in the above screen are

Print On (Printer): Select the printer on which you want to print the report.

The options in the screen are

Print On clicking print option button the report is printed on selected printer.

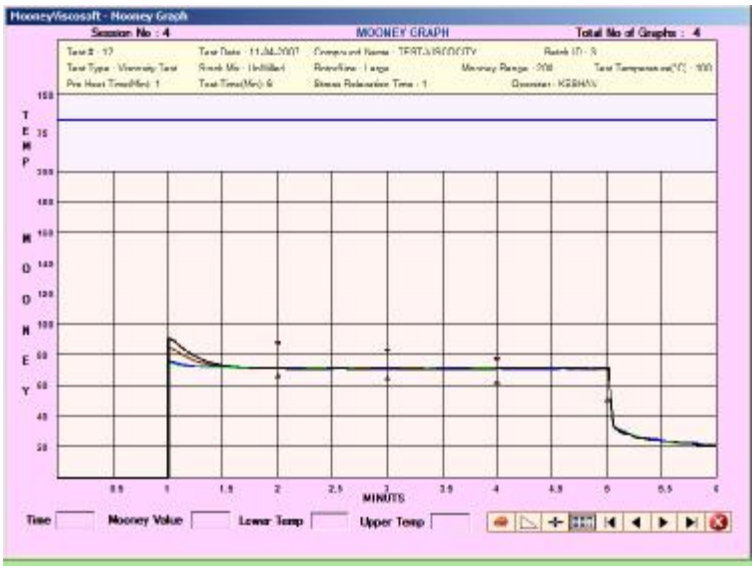
Preview Show preview of the report before printing.

Printing Stress Relaxation Report

Same option appears for printing stress relaxation report.

Showing all the specimen in same session

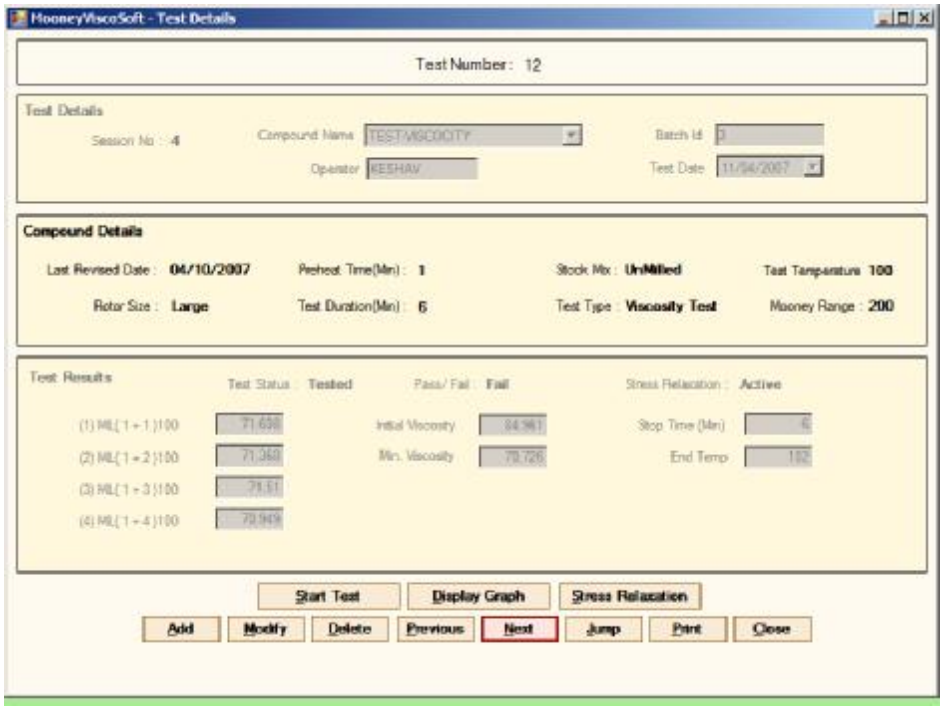
Show all the specimen graphs in a session.



Quit from testing and go back

On clicking this **U** button the specimen details screen appears showing the test results.

Test Results



After conducting the test the results shown are:

Test Results: (Viscosity test) as shown above

These details are shown as the per the test type: In case of Viscosity test following details are shown.

Test Status This is the status of test as Tested/ Not tested.

Pass/Fail The specimen results are compared with a set of pass/fail criteria set under compound details. The specimen is termed accordingly. The compound details section described in the following sections shows these parameters.

Stress Relaxation This is stress relaxation parameter set under compound details.

Results

(1) ML (1 + 1) 100 Mooney value at (Preheat time + 1 minute) after ML at 100 Degree Celsius
(2) ML (1 + 2) 100 Mooney value at (Preheat time + 2 minute) after ML at 100 Degree Celsius
(3) ML (1 + 3) 100 Mooney value at (Preheat time + 3 minute) after ML at 100 Degree Celsius

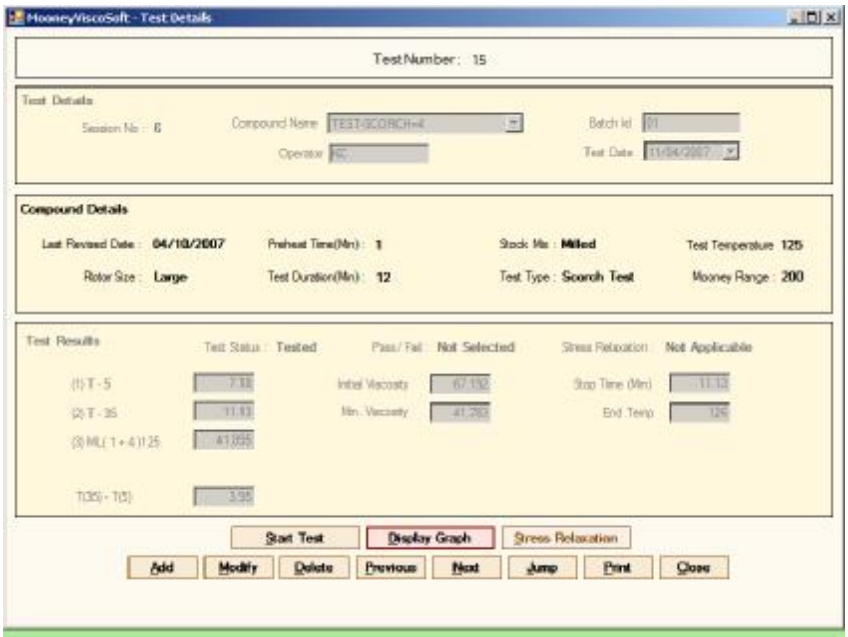
The above three values are as per compound details. The required result values are set in compound details.

Initial Viscosity This is initial Mooney Viscosity value.
Min. Viscosity This is minimum Mooney Viscosity.
Stop Time Stop time of the test
End Temp Temperature at the end of testing.

Test Results: (Scorch test) as shown below

This screen shows the Scorch graph

Scorch test specimen shows following details.

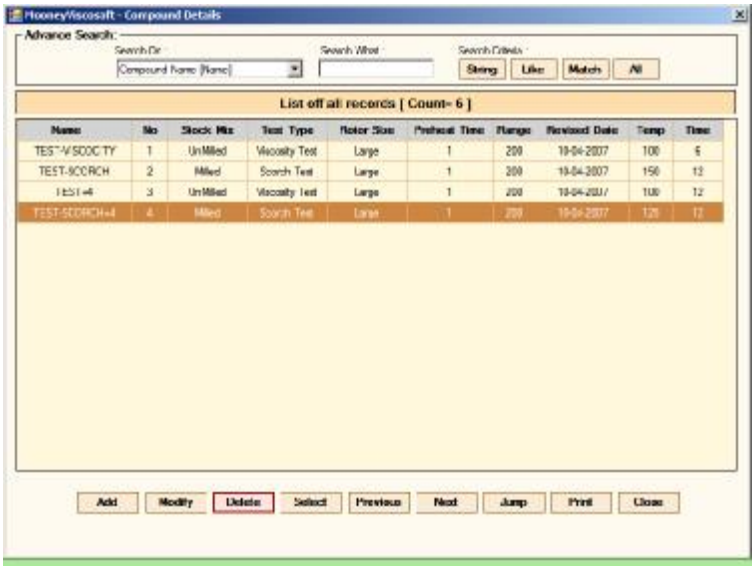


Test Status This is the status of test as Tested/ Not tested.
Pass/Fail The specimen results are compared with a set of pass/fail criteria set under compound details. The specimen is termed accordingly. The compound details section described in the following sections shows these parameters.
Stress Relaxation Not applicable

Results
(1) T - 5 Time at 5 Mooney above Min Viscosity
(2) T-35 Time at 35 Mooney above Min Viscosity
(3) ML (1 + 4) 125 Mooney value at (Preheat time + 4 minute) after ML at 125 Degree Celsius
T(35) – T(5) Difference between T (35) – T (5). The values 35 and 5 values should be set in the compound details.

Compound details

On clicking Compound details following screen appears. This is list of the entire compounds for testing in order of compound no. The cursor is placed on the last compound.

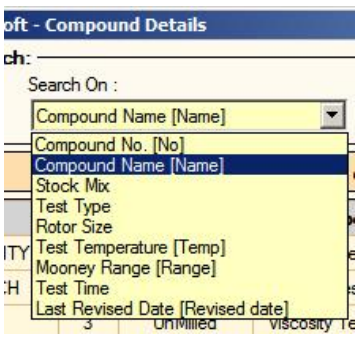


Compound list details and options

Advance Search: This option helps in searching the compound details on various methods.

The details in this option are

Search on: You can search the details on the basis of Compound No., Compound name, Stock Mix type, Test type, Rotor Size, Test Temperature, Mooney Range, Test Time and Last revised date. Select the search criteria for listing the compound details.

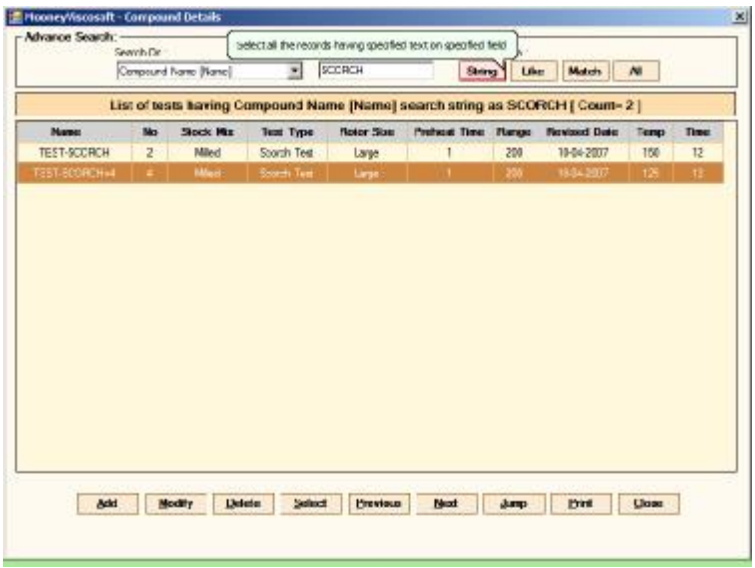


Search What: Type the required details to be searched. The required search will depend upon above search on parameter. For example to search details of all the compound for a compound name, you should select Compound name as above and then type the name of compound to be searched. You can also type few starting or ending, or any middle characters in the text for the information to be searched.

Search Criteria: User can search matching details depending upon the typed value. The details that can be searched are

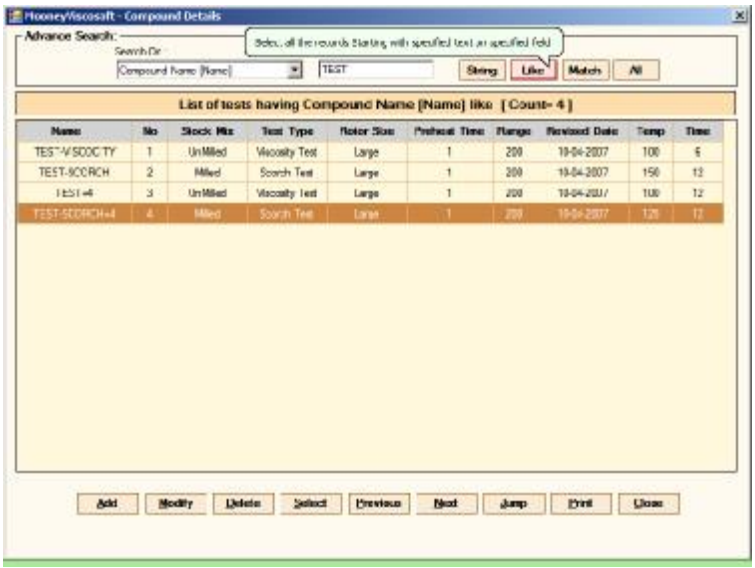
(**1) String-** the records, which contain typed value in string.

Following example shows **Search on**: Compound name **Search what**: SCORCH **Search Criteria**: String



(2) Like: Records, which starts with typed value in string.

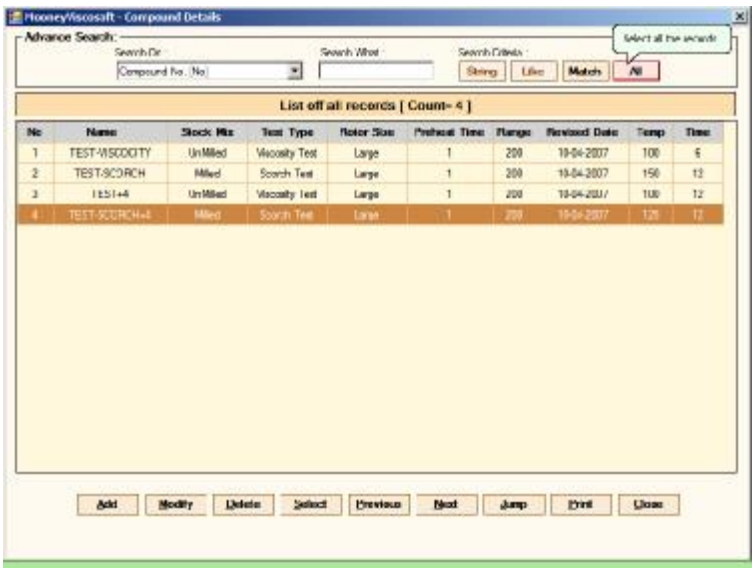
Following example shows **Search on:** Compound Name **Search what:** TEST **Search Criteria**: Like



(3) Match- the records, which matches typed value in string.

Following example shows **Search on:** Test Temperature **Search what:** 100 **Search Criteria**: Match

(4) All- All the records irrespective of any criteria
Following example shows **Search on:** Compound No. **Search what**: _____ **Search Criteria:** All



<u>List of Compounds (records):</u> This screen is the list of all compounds. The list contains following columns.

Compound No.	This is a running serial number of the compounds
Name	This is the name of the compound.
Stock Mix	Type of mix as Milled or Un milled
Test Type	Type of test as Viscosity test or Scorch test.
Rotor Size	Rotor Size
Preheat time	Time of preheat in minutes.
Range	Largest Mooney range required.
Revised date	last date of modifying the details
Temp.	Temperature of the testing the compound
Time	Time duration of the testing the compound

The options available under this option are

Add Add a new compound details for testing

Modify Modify the compound details for testing

Delete Delete the current compound. You will be asked to reconfirm deletion.

Select Select and shows the current compound details and results

Previous Show previous compound

Next Show next compound

Jump Go to a particular compound number. The screen will show the details of the required compound.

Print Print or preview compound details of the current compound. Following screen appears:

The parameters in the above screen are

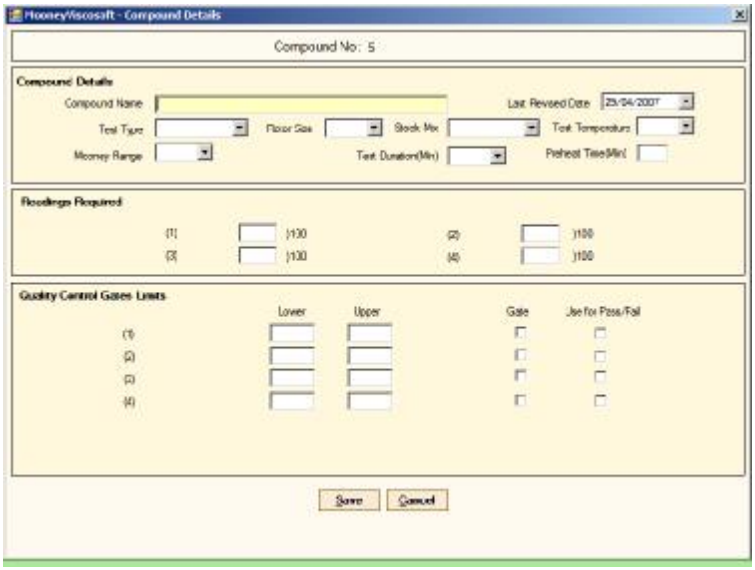
Print On (Printer): Select the printer on which you want to print the report. The options in the screen are

Print To print report on the selected printer.

Preview Show preview of the report before printing.

Adding Compound

Click on **Add** option as shown in compound list screen above. Following screen appears.

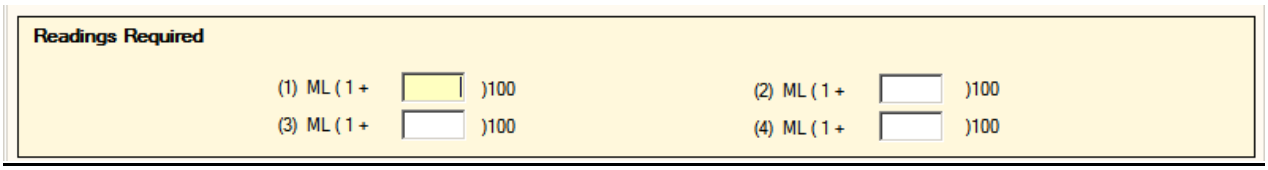


Following are the various parameters that are required to be filled.

Compound details

Compound Number	This is the compound number of the compound. It is allotted automatically. In the above screen this number is 5. You cannot change this number.
Compound name	This is name of the compound.
Last revised date	Date of last updating of compound details.
Test Type	Select the type of test namely **Viscosity test** or **Scorch Test**
Rotor Size	Select the size of the rotor used Small/Large
Stock Mix	Select the type of stock mix as Milled/Un Milled
Test Temperature	Select temperature at which this compound is tested. This should be set on the temperature controller while testing.
Mooney range	Select highest expected Mooney value for the compound.
Test Duration (Min.)	Select duration of test in minutes.
Preheat Time (Min.)	Type preheat time required for testing. The preheat time should not be 0 for Viscosity test.

Readings required (Viscosity Test)

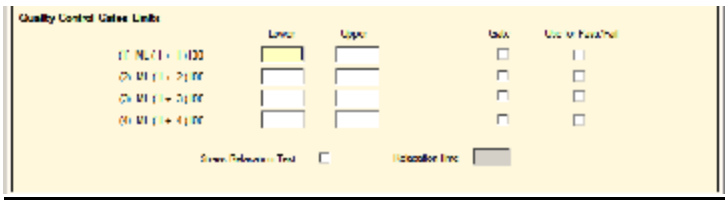


Type the readings required for a Viscosity test. Four values are allowed for Mooney value at (Preheat time + **X** minute) after ML at 100 Degree Celsius.

(1) ML (1+**A**) 100	Mooney value at (Preheat time + A minute) after ML at 100 Degree Celsius
(2) ML (1+B) 100	Mooney value at (Preheat time + B minute) after ML at 100 Degree Celsius
(3) ML (1+**C**) 100	Mooney value at (Preheat time + C minute) after ML at 100 Degree Celsius
(4) ML (1+D) 100	Mooney value at (Preheat time + D minute) after ML at 100 Degree Celsius

The 100 Degree Celsius temperature is as per test temperature chosen above.

Quality Control Gates Limits (Viscosity Test)



Lower Upper values : Type the Lower and Upper control limits for each of Mooney values. These values can also be set later on. The control limits help in QC and statistical analysis.

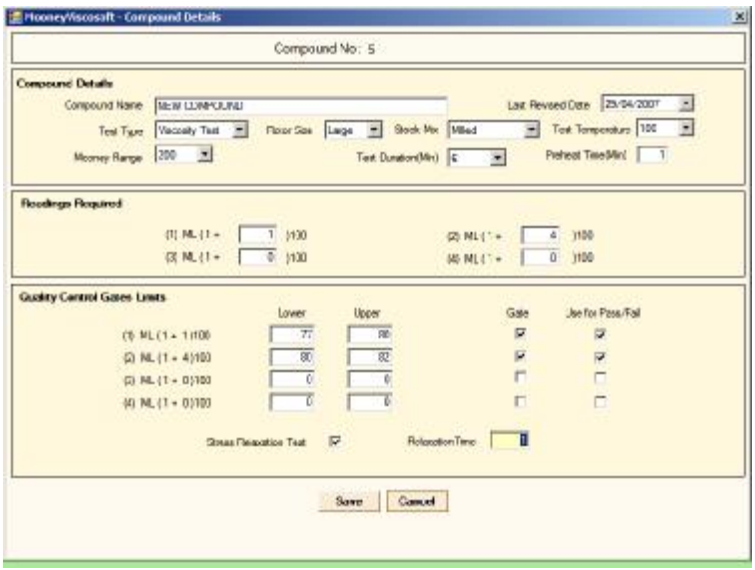
Gates: Click on Gates as **R** if you want to use this as control gates while testing specimen.

Use for pass/fail: Click on the value as **R** if you want to use the limit as pass/fail criteria. The tested specimens results are compared with these values and are treated as passed.

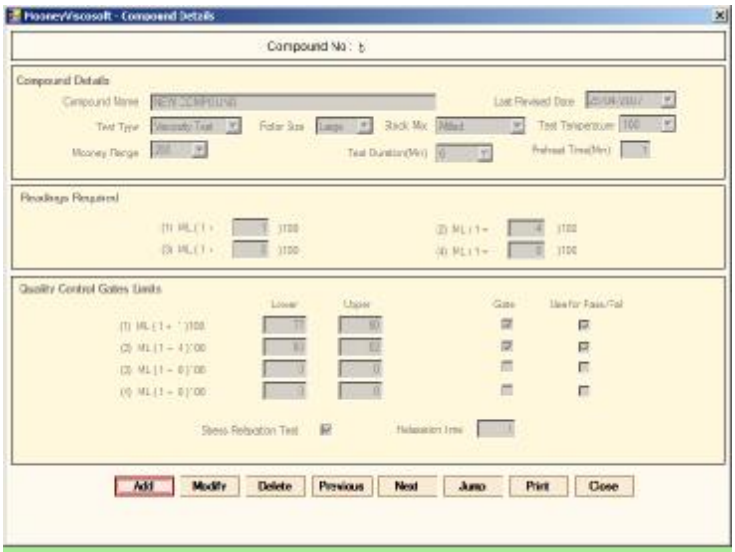
Stress Relaxation Test: Click on this as **R** if you want to conduct stress relaxation test. (Only for Viscosity test)

Relaxation Time: Type the time for stress relaxation test. (Only if above value is checked true)

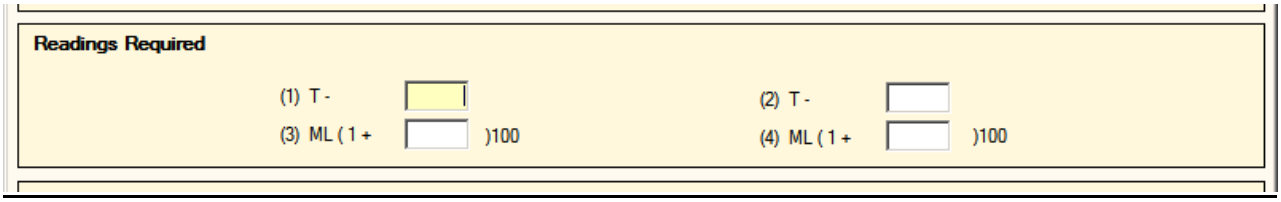
After typing all the details the screen shows.



On pressing [Enter] on the last value the focus is placed on [Save]. On pressing [Save] button the details are saved and following screen is shown.



Readings required (Scorch Test)



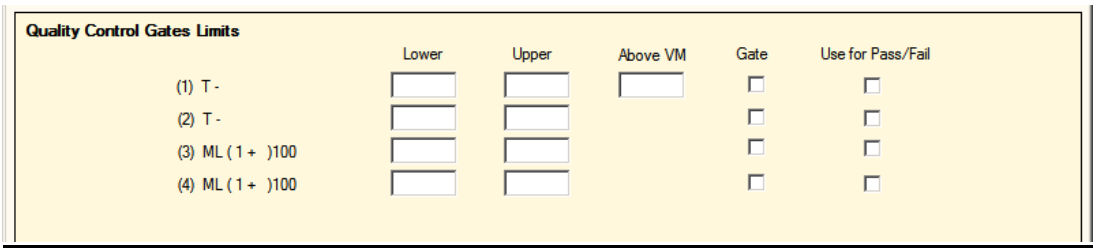
Type the readings required for a scorch test. Four values are allowed for Mooney value. These values are

(1) T – **X**	Time at X Mooney above Min Viscosity
(2) T – **Y**	Time at Y Mooney above Min Viscosity
(3) ML (1+**A**) 100	Mooney value at (Preheat time + A minute) after ML at 100 Degree Celsius
(4) ML (1+B) 100	Mooney value at (Preheat time + B minute) after ML at 100 Degree Celsius

Type the required result to be calculated as X, Y, A, B.

T(35) – T(5) Difference between T (35) – T (5). The values 35 and 5 values should be set in the compound details.

Quality Control Gates Limits (Scorch Test)

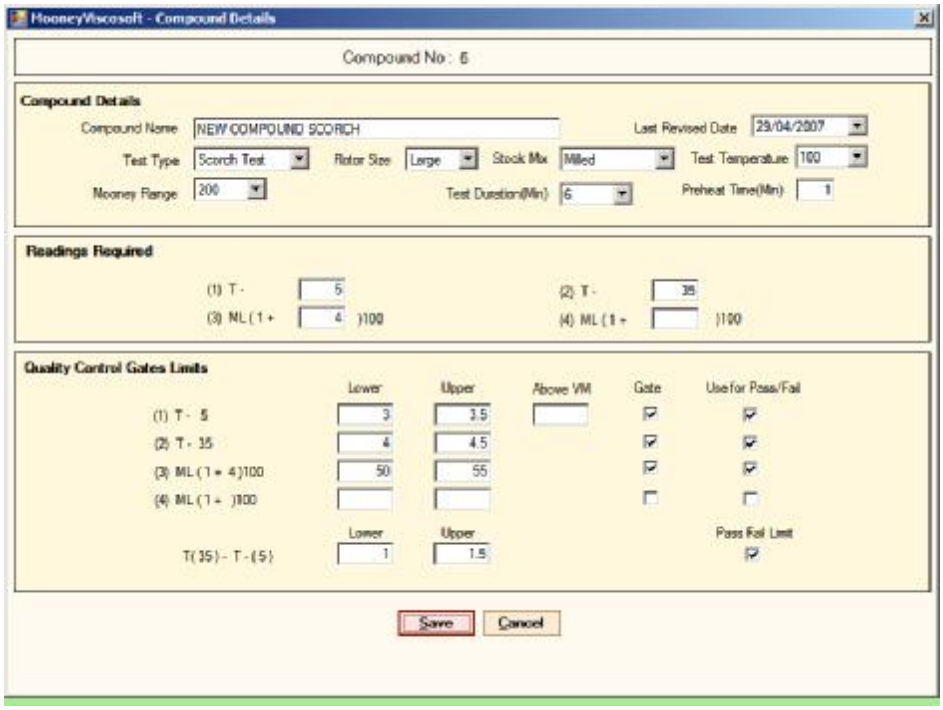


Type the Lower and Upper control limits for each of Mooney values. These values can also be set later on. The control limits help in QC and statistical analysis.

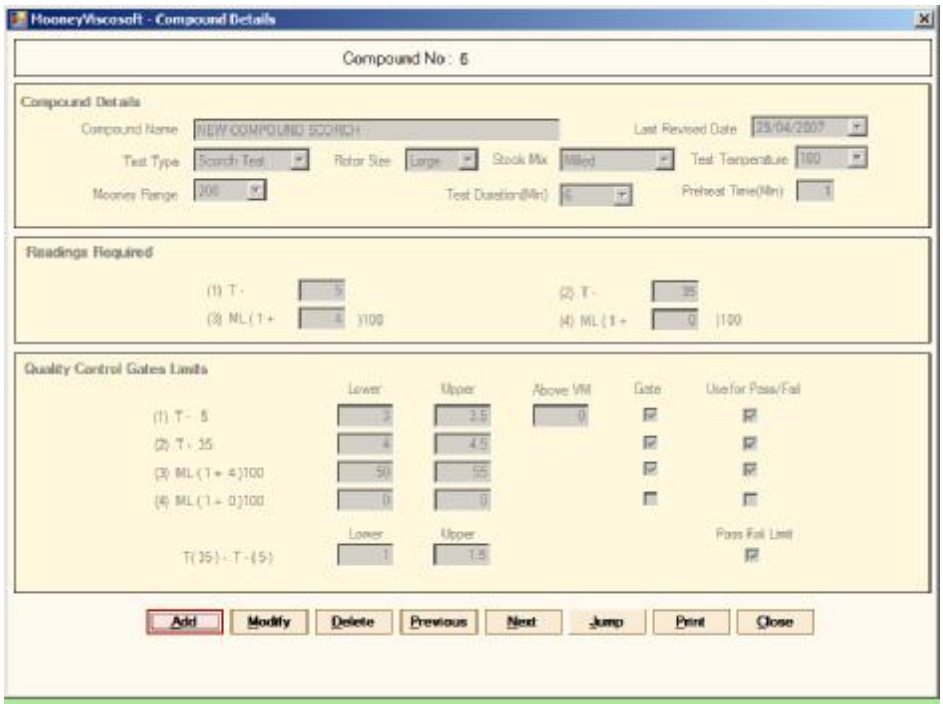
Gates: Click on Gates as **R** if you want to use this as control gates while testing specimen.

User for pass/fail: Click on the value as **R** is you want to use the limit as pass/fail criteria. The tested specimens results are compared with these values and are treated as passed.

After typing all the details the screen shows.



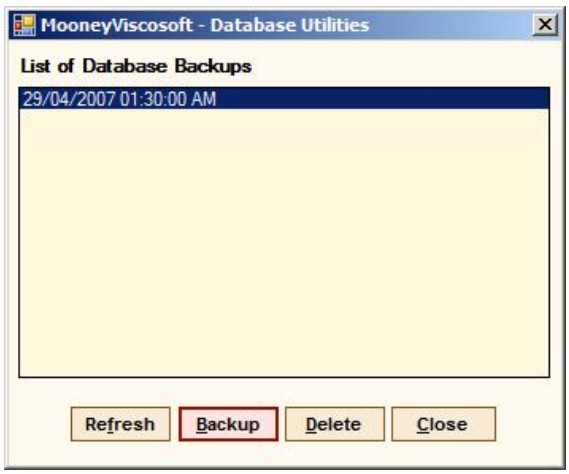
On pressing [Enter] on the last value the focus is placed on [Save]. On pressing [Save] button the details are saved and following screen is shown. The details shown also contain Viscosity test details. This is mixed sample where Scorch and Viscosity both tests are conducted. To create purely Scorch test do not fill Viscosity readings.



Data Maintenance

Cick on Data maintenance option on the main menu.

On clicking this option following screen appears

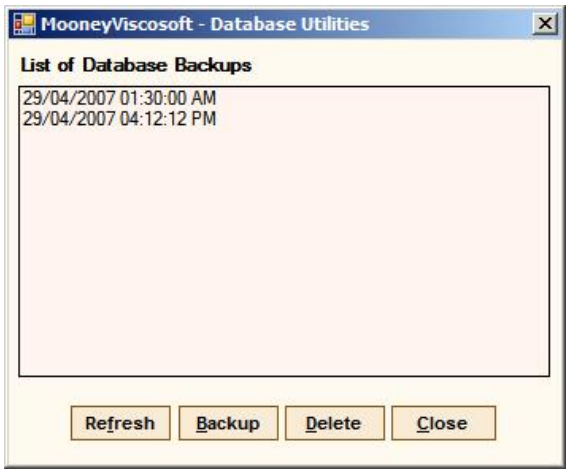


The list shows list of all the backups taken earlier. Following options are available

Refresh Refresh list of backups taken

Backup Click on this option to take backup. After clicking this option backup is taken and following screen appears. Click OK to continue.

The list will show the latest backup take above



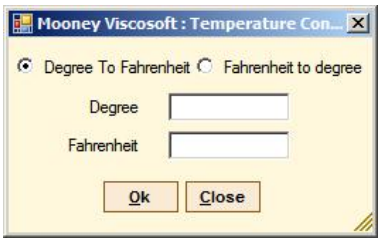
Delete Delete the selected backup from the list taken earlier.
Close Quit the option and go back to Main Menu

Tools

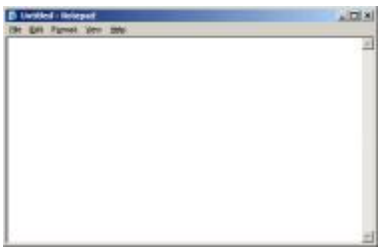
This option is for opening function utilities.

The utilities are

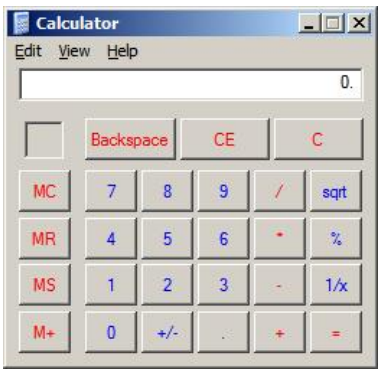
Temperature conversion A temperature conversion option for converting Degree Celsius into Fahrenheit and vice versa.



Notepad Opens a notepad for writing comments.

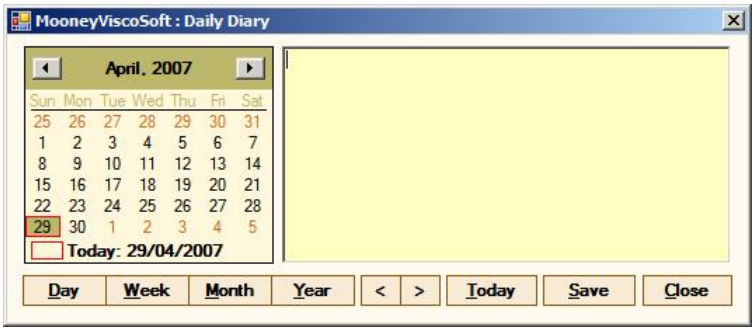


Calculator Opens a calculator for calculations.



Calendar Opens a calendar for dates.

Diary Opens a diary for noting day-to-day activities.


MooneyViscoSoft : Daily Diary
April, 2007
Sun Mon Tue Wed Thu Fri Sat
25 26 27 28 29 30 31
1 2 3 4 5 6 7
8 9 10 11 12 13 14
15 16 17 18 19 20 21
22 23 24 25 26 27 28
29 30 1 2 3 4 5
Today: 29/04/2007
Day Week Month Year < > Today Save Close

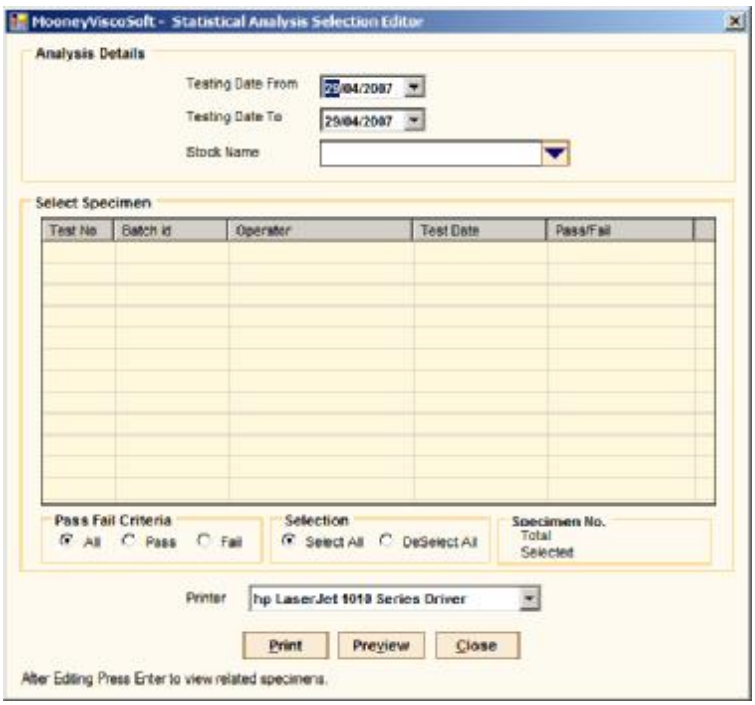
Data Analysis

On clicking data analysis option of the main menu following screen appears.

The options on this screen are:

Statistical Data analysis

On clicking this option following screen appears



Various parameters on this screen are

Testing Date from: Date from which the specimens should be analyzed

Testing date to: Date till which specimens should be analyzed.

Stock Name: Select stock to be analyzed.

Pass-fail criteria: Select all specimens or passed specimens or failed specimens.

Selection: Select all or deselect all

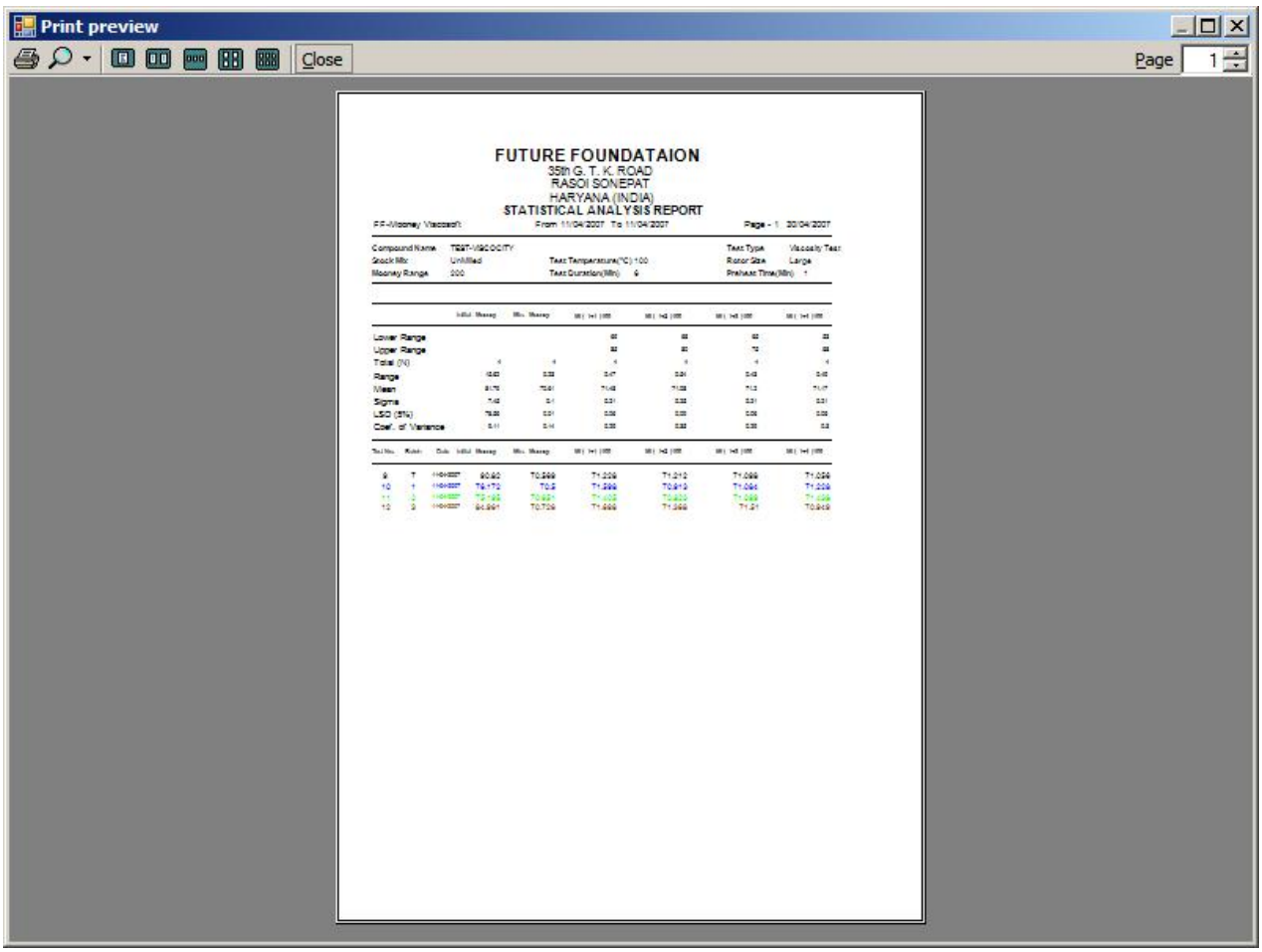
Printer: Select printer on which report is to be printed.

The option buttons are

Print Prints following report on selected printer.

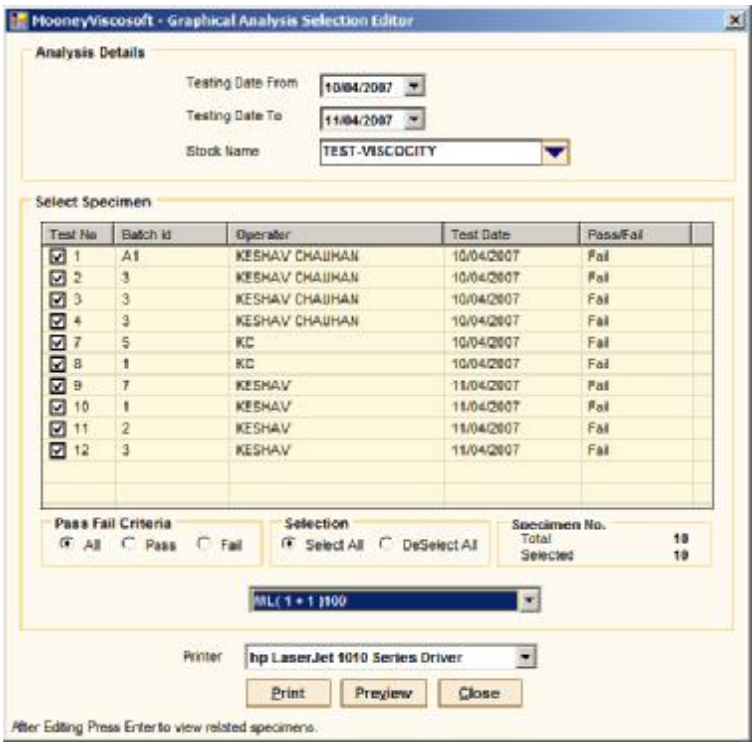
Preview Shows the report as given below.

Close Quit from this option and go back to previous option.



Graphical data Analysis

On clicking this option following screen appears.



Various parameters on this screen are

Testing Date from: Date from which the specimens should be analyzed

Testing date to: Date till which specimens should be analyzed.

Stock Name: Select stock to be analyzed.

Pass-fail criteria: Select all specimens or passed specimens or failed specimens.

Selection: Select all or deselect all

Printer: Select printer on which report is to be printed.

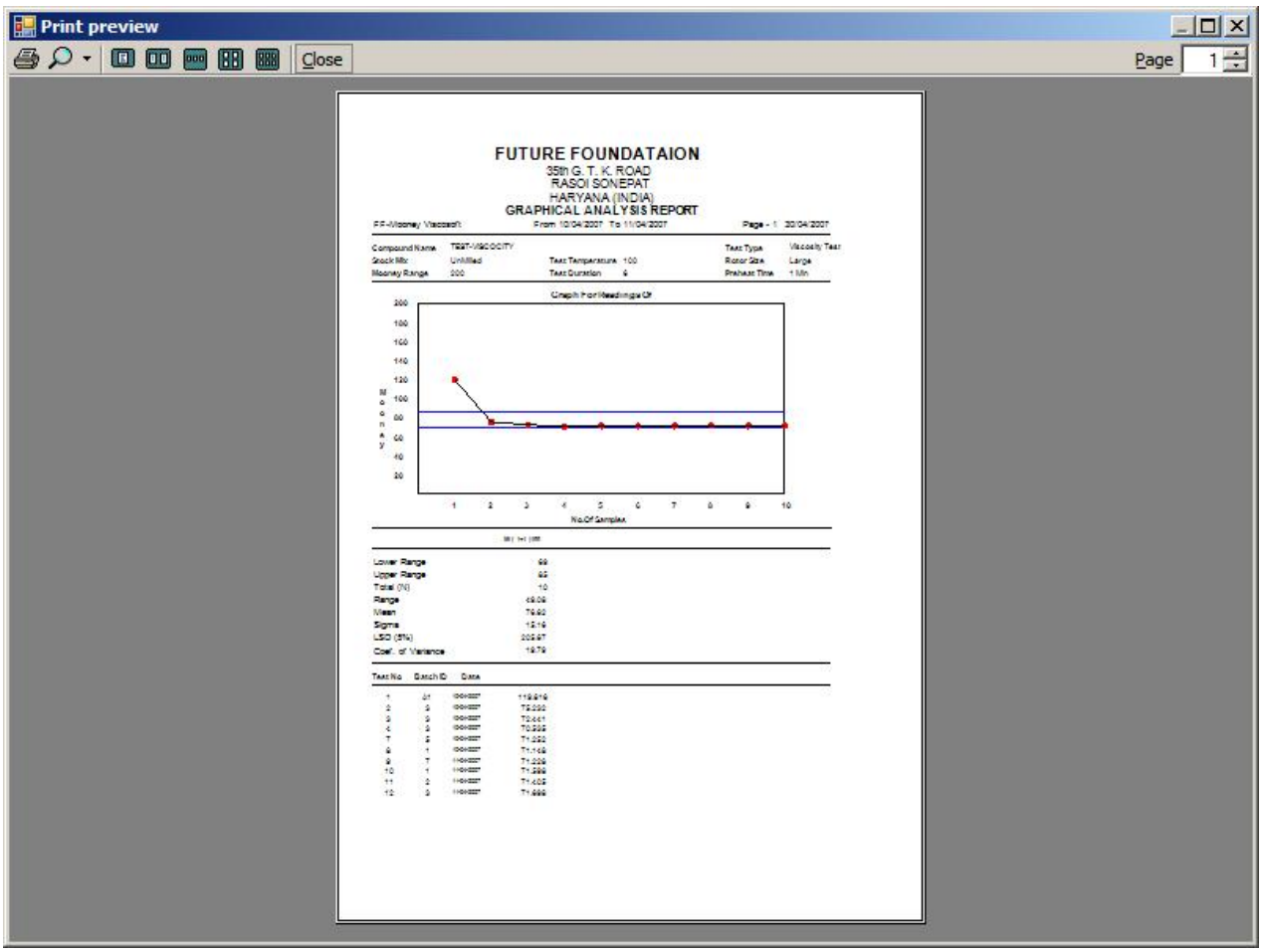
Select parameter Select the required parameter for graphical analysis report.

The option buttons are

Print Prints following report on selected printer.

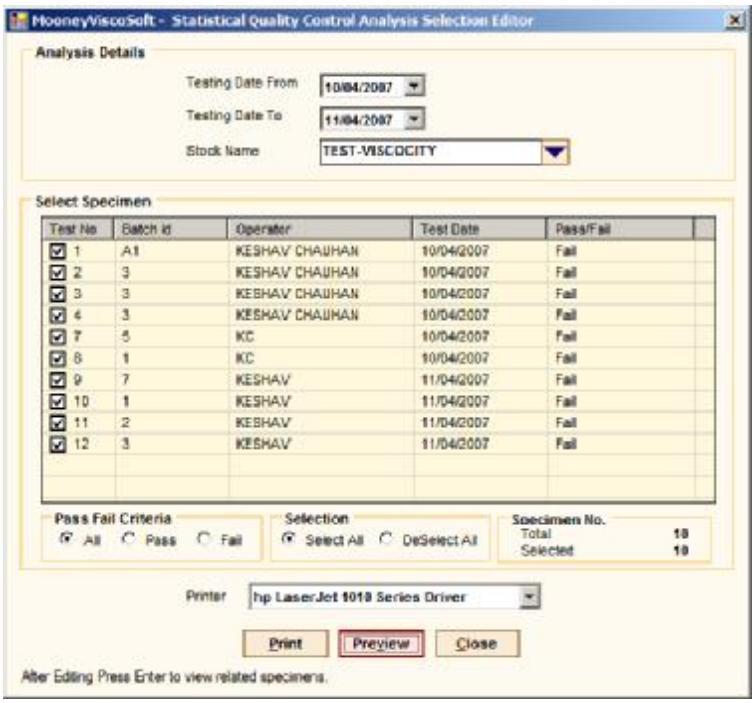
Preview Shows the report as given below.

Close Quit from this option and go back to previous option.



Statistical Quality control report

On clicking this option following screen appears



Various parameters on this screen are

Testing Date from: Date from which the specimens should be analyzed

Testing date to: Date till which specimens should be analyzed.

Stock Name: Select stock to be analyzed.

Pass-fail criteria: Select all specimens or passed specimens or failed specimens.

Selection: Select all or deselect all

Printer: Select printer on which report is to be printed.

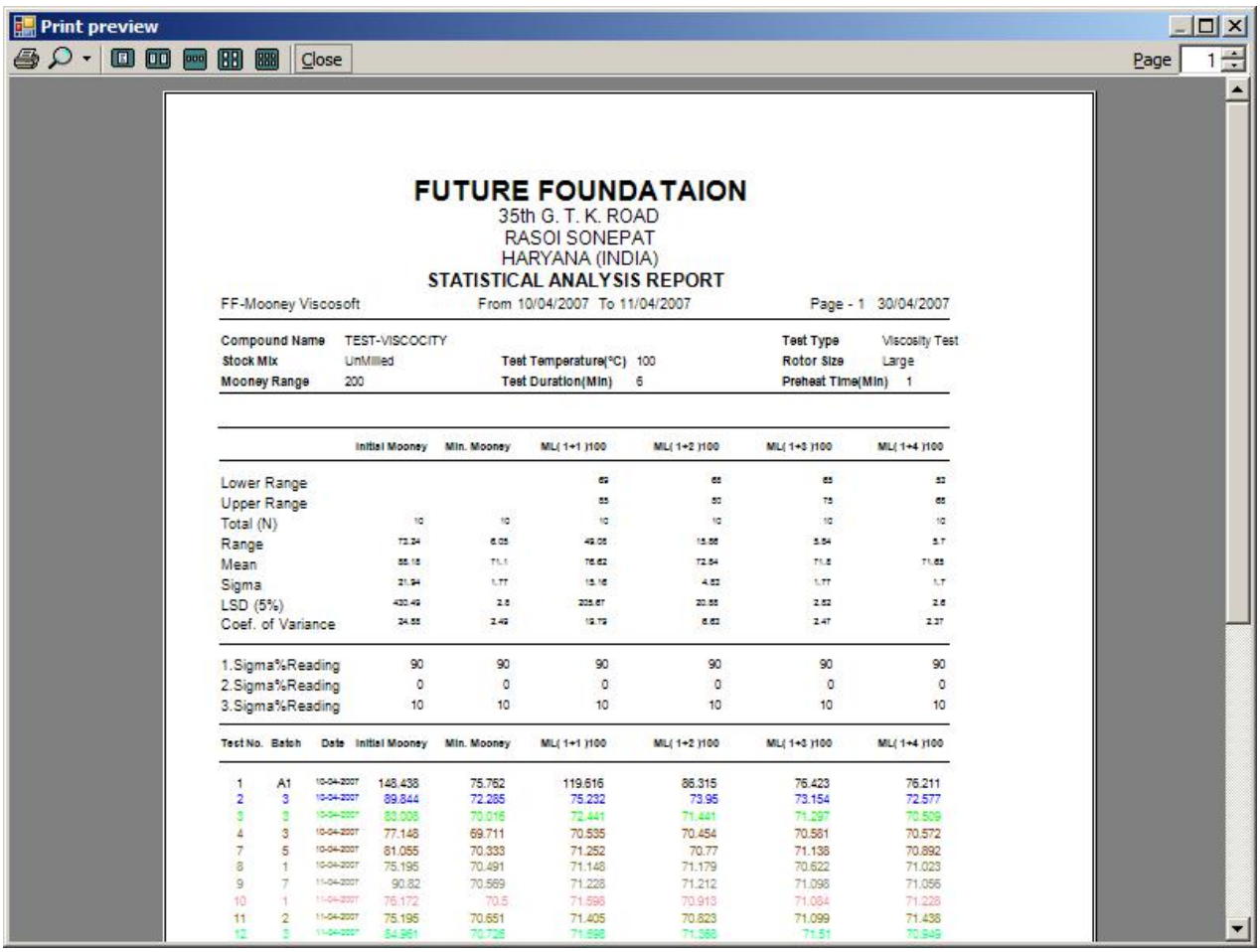
The option buttons are

Print Prints following report on selected printer.

Preview Shows the report as given below.

Close Quit from this option and go back to previous option.

Various parameters on this screen are same as described in the previous option. The output report is as shown below.



Advance statistical analysis

This option is for control charts and capability study. On clicking this option following screen appears

Other parameters on capability screen are.

Stock Name: Select stock to be analyzed.

Analyze parameter: Select the parameter to analyze

Testing Date from: Date from which the specimens should be analyzed

Testing date to: Date till which specimens should be analyzed.

Size of sub group: This is size of sub group for each session or day for capability study.

Sub group base: Base of subgroup on the basis of which capability analysis is done.
Date wise: All the specimens are selected date wise.
Session wise: All the specimens are selected session wise.

Pass-fail criteria: Select all specimens or passed specimens or failed specimens.

Control chart: Select type of control chart required
X-bar and range chart
X-bar and sigma chart

Data selection criteria: Select the way the data is selected
Manual: The data is to selected manually
Auto: The data is selected automatically.

Auto option: In case if data is to be selected automatically
Even: All even number specimens are selected
Odd: All odd number specimens are selected
Interval: Sample numbers with a specific interval are selected

The option buttons are

Apply: This button searches all the specimens and applies above parameters.

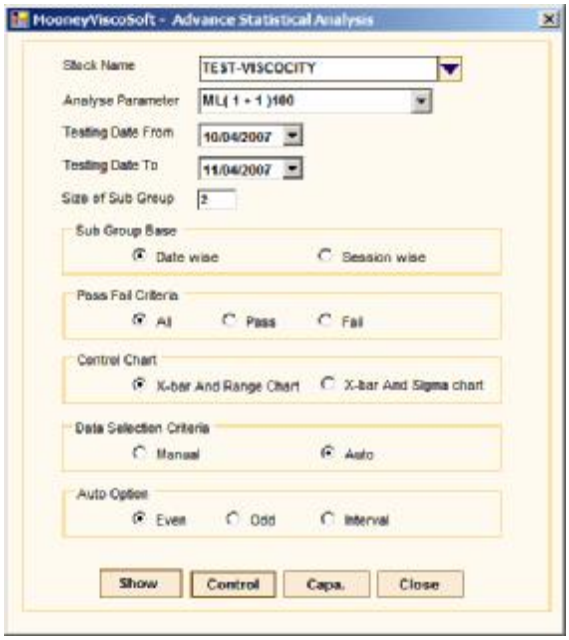
Show: Shows list of selected specimen date wise or session wise

Control charts: Shows and prints control charts

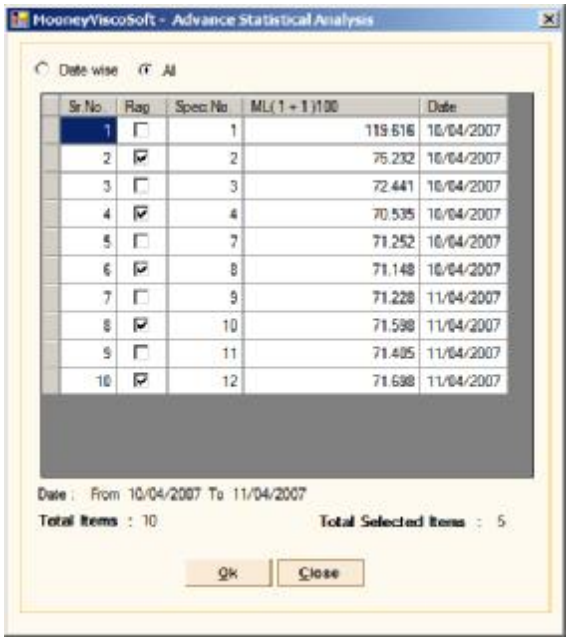
Capa: Shows and prints capability charts

Close Quit from the option.

On clicking apply following screen opens.

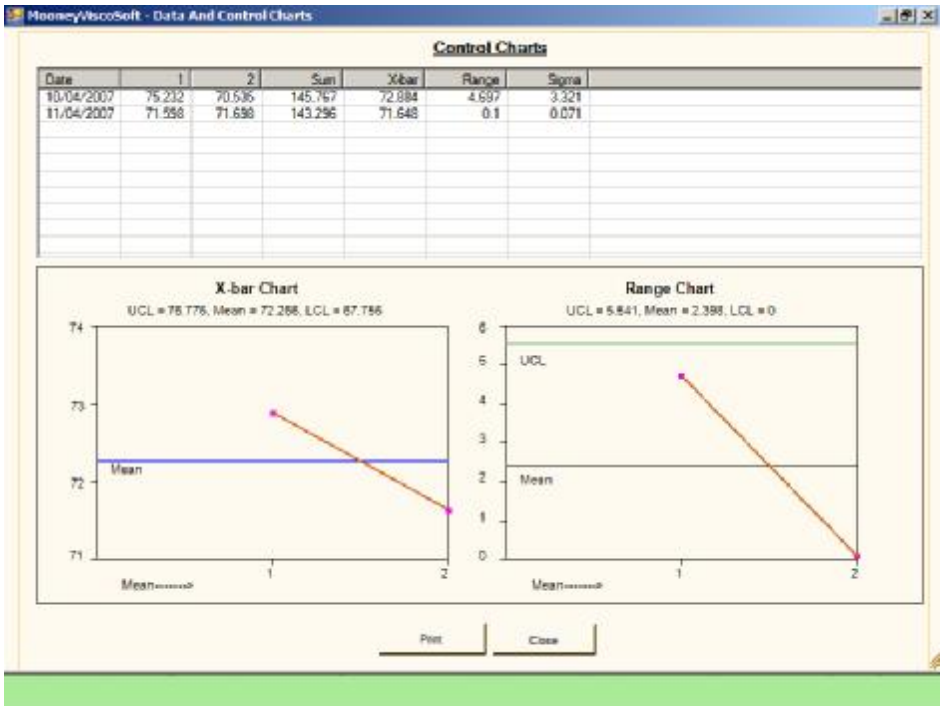


On clicking show following screen appears.

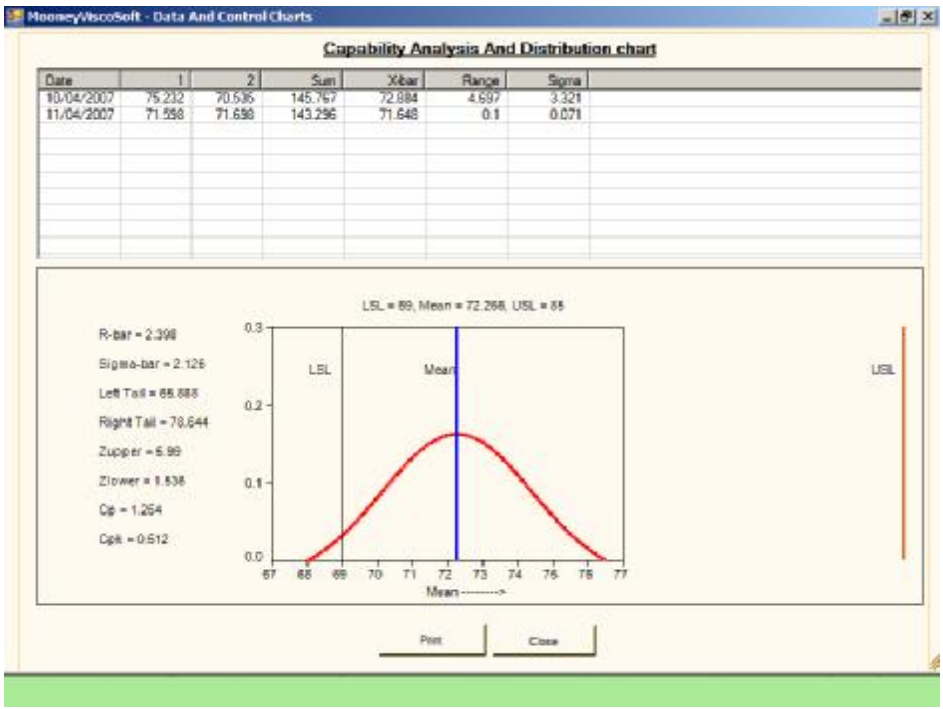


You can select or deselect the specimens from the selected specimens.

On clicking **Control** chart following screen appears



On Clicking **Capa** button following screen appears



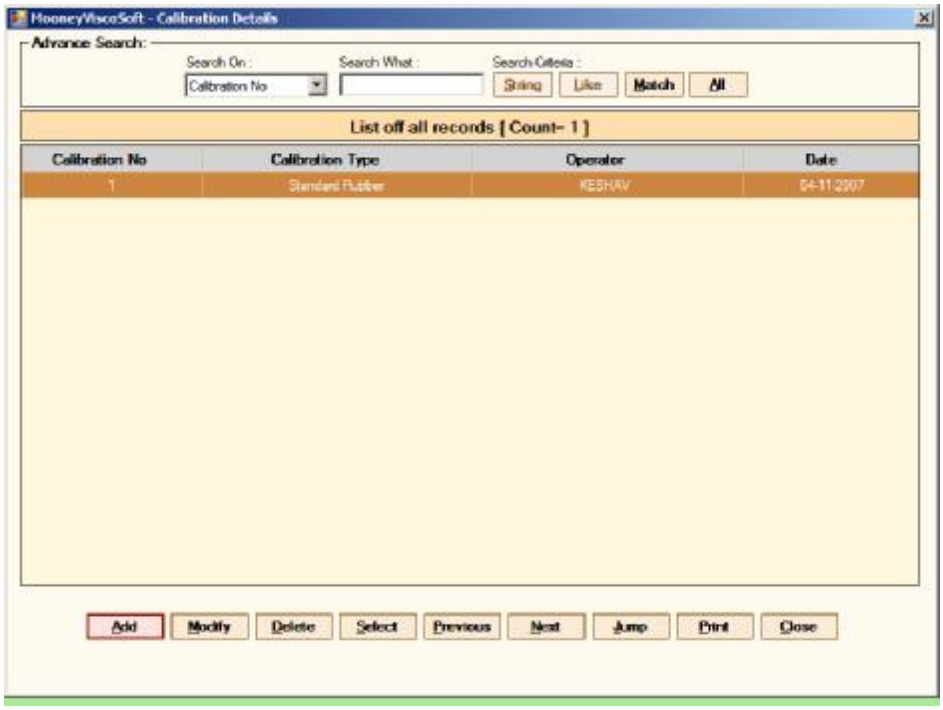
The options on screen are.

Print: Print capability analysis and control char
Close: Quit from option and go back to main screen.

Auto Calibration

The calibration option sets calibration Mooney Viscometer. This is list of the entire calibrations for testing in order of calibration no. The cursor is placed on the last calibration done. The system keeps details of all the calibrations done.

On clicking this option following screen appears:

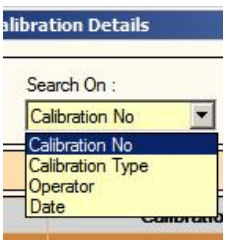


Calibration list details and options

Advance Search: This option helps in searching the calibration details on various methods.

The details in this option are

Search on: You can search the details on the basis of calibration no., Calibration type, Operator and date. Select the search criteria for listing the calibration details.

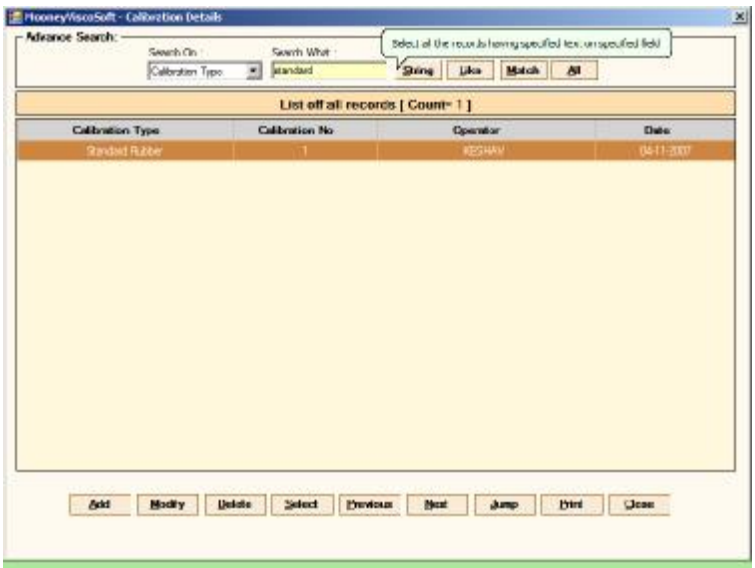


Search What: Type the required details to be searched. The required search will depend upon above search on parameter. For example to search details of all the calibration for a calibration type, you should select calibration type as above and then type the name of calibration type to be searched. You can also type few starting or ending, or any middle characters in the text for the information to be searched.

Search Criteria: User can search matching details depending upon the typed value. The details that can be searched are

(**1) String-** the records, which contain typed value in string.

Following example shows **Search on**: Calibration type **Search what**: Standard **Search Criteria**: String

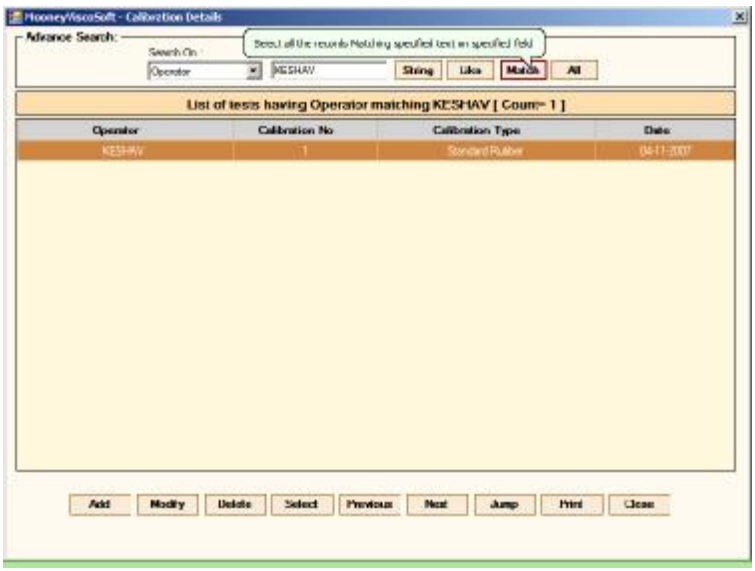


(2) Like: Records, which starts with typed value in string.

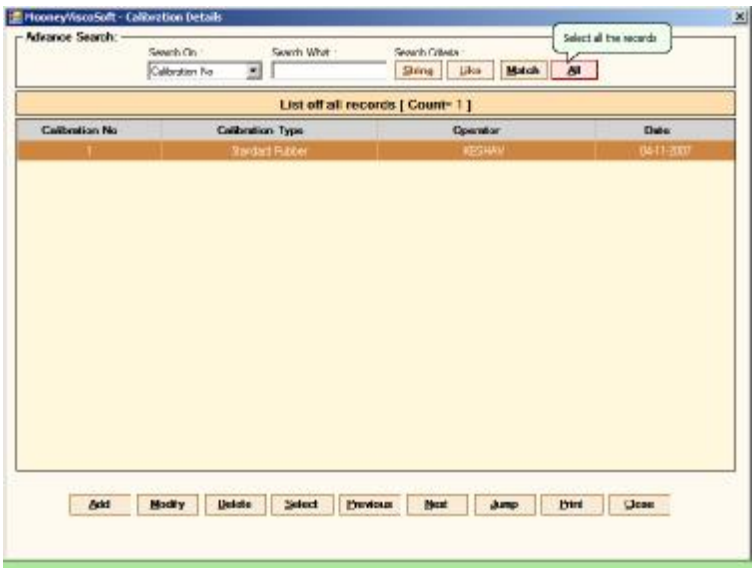
Following example shows **Search on:** Calibration Type **Search what:** Standard **Search Criteria**: Like

(3) Match- the records, which matches typed value in string.

Following example shows **Search on:** Operator **Search what:** KESHAV **Search Criteria**: Match



(4) All- All the records irrespective of any criteria
Following example shows **Search on:** Calibration No. **Search what**: _____ **Search Criteria:** All



List of calibration (records): This screen is the list of all calibrations. The list contains following columns.

Calibration No.	This is a running serial number of the calibration.
Calibration Type	This is the name of the calibration type.
Operator	This is name of the operator performing calibration.
Date	This is date of performing calibration.

The options available under this option are

Add Add a new calibration details for testing

Modify Modify the calibration details for testing

Delete Delete the current calibration. You will be asked to reconfirm deletion.

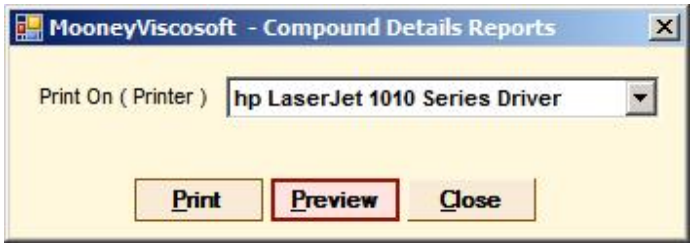
Select Select and shows the current calibration.

Previous Show previous calibration

Next Show next calibration

Jump Go to a particular calibration number. The screen will show the details of the required calibration.

Print Print or preview calibration details of the current calibration. Following screen appears:



The parameters in the above screen are

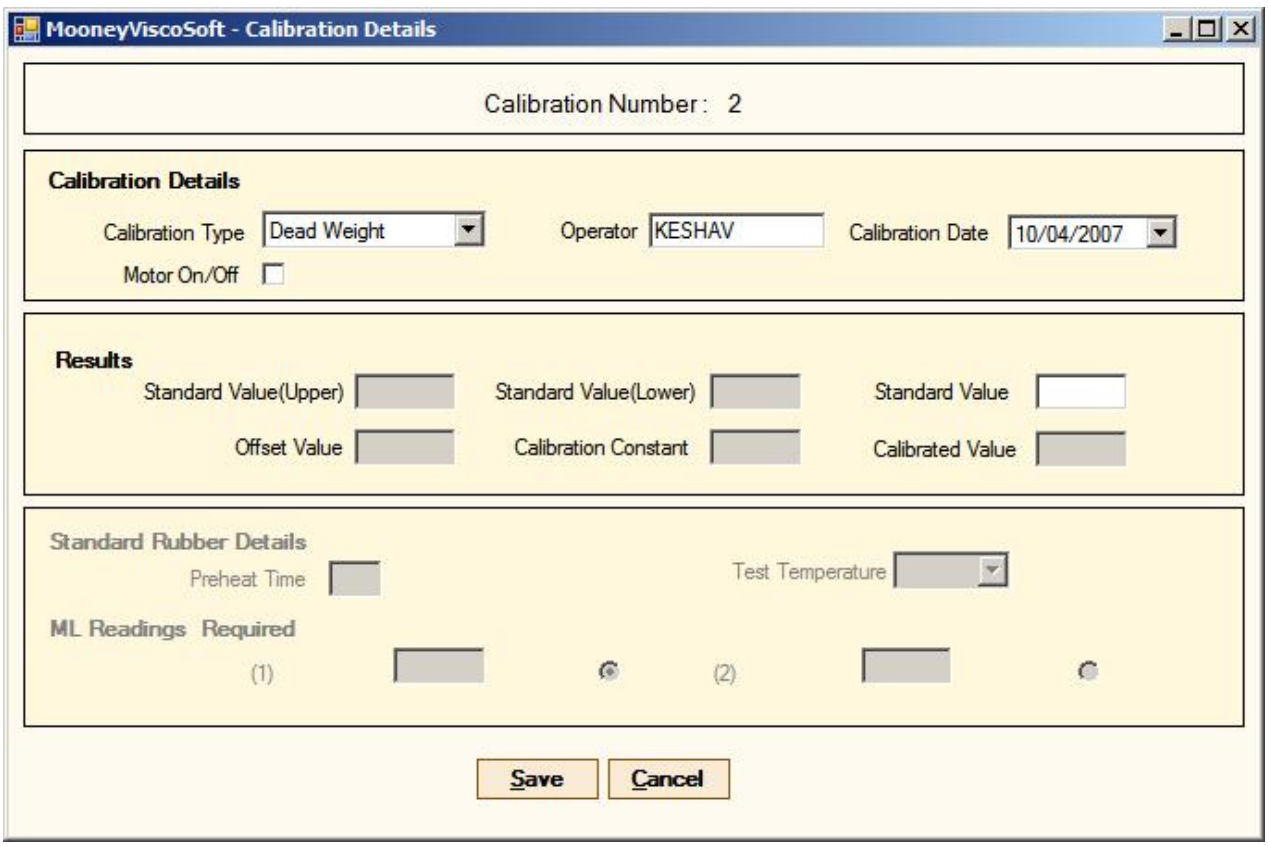
Print On (Printer): Select the printer on which you want to print the report. The options in the screen are

Print To print report on the selected printer.

Preview Show preview of the report before printing.

Adding and conducting calibration

Click on **Add** option as shown in calibration list screen above. Following screen appears.

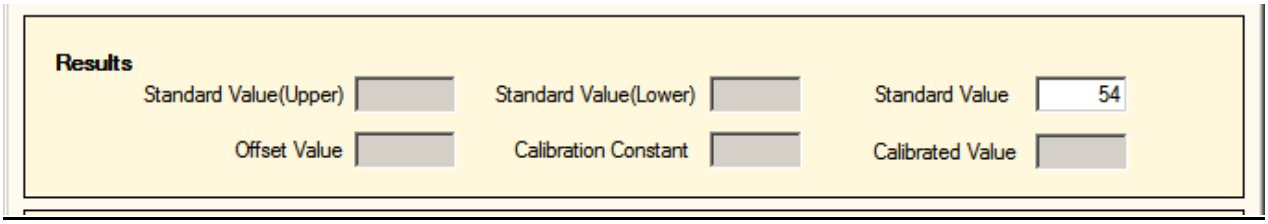


Following are the various parameters that are required to be filled.

Calibration details

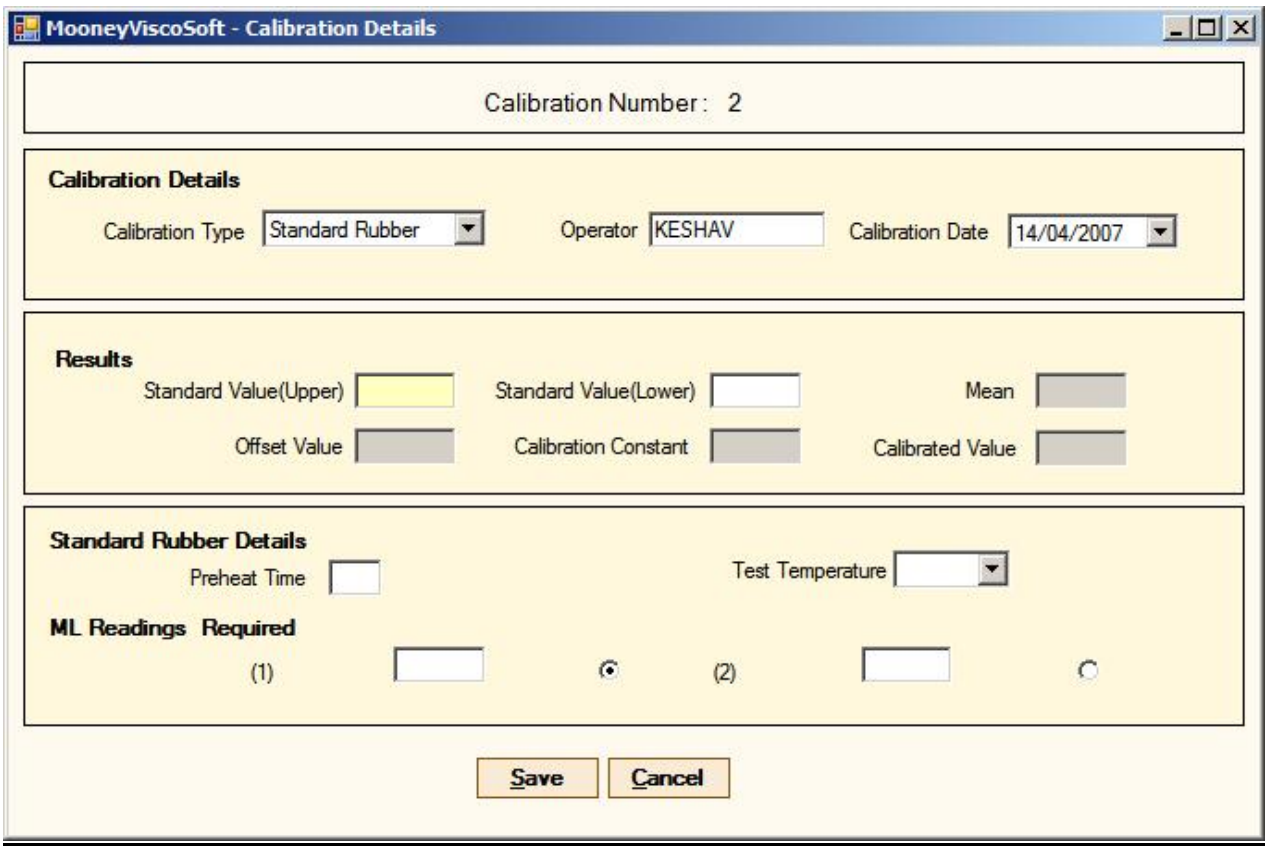
Calibration Number This is the calibration number of the calibration. It is allotted automatically. In the above screen this number is 2. You cannot change this number.
Calibration Type This is type of the calibration. Two type of calibration can be conducted namely Standard Rubber and Dead Weight.
Operator Name of the operator
Calibration date Date of calibration
Motor on/off Turns motor on/off automatically
Standard Value Standard value

Result (Dead Weight)



Type the Standard value expected for dead weight. After conducting the calibration the software will calculate Offset value and Calibration constant.

Result (Standard Rubber)

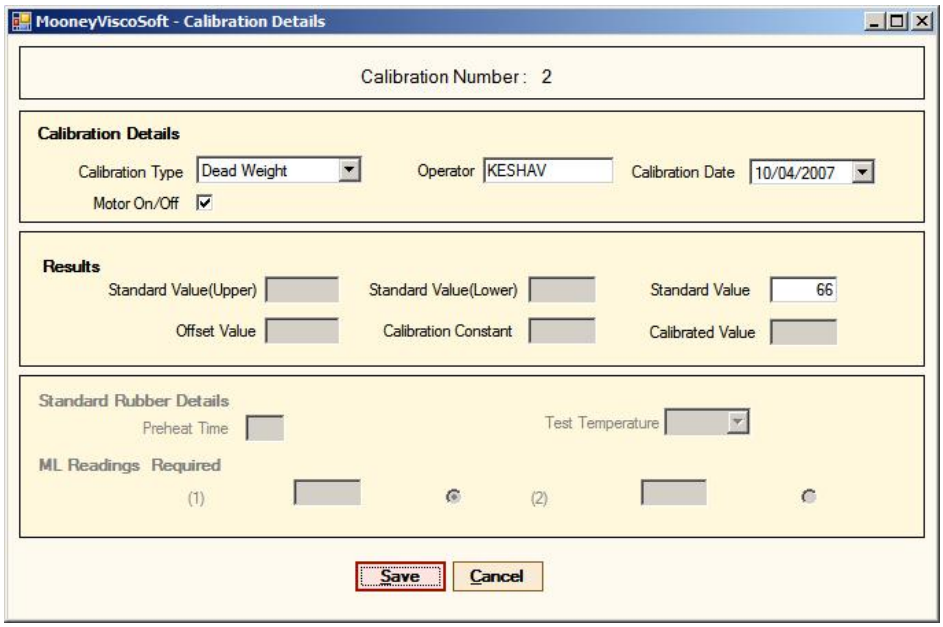


Standard Value (Upper): Type the Lower and Upper values for Mooney values.
(Lower)

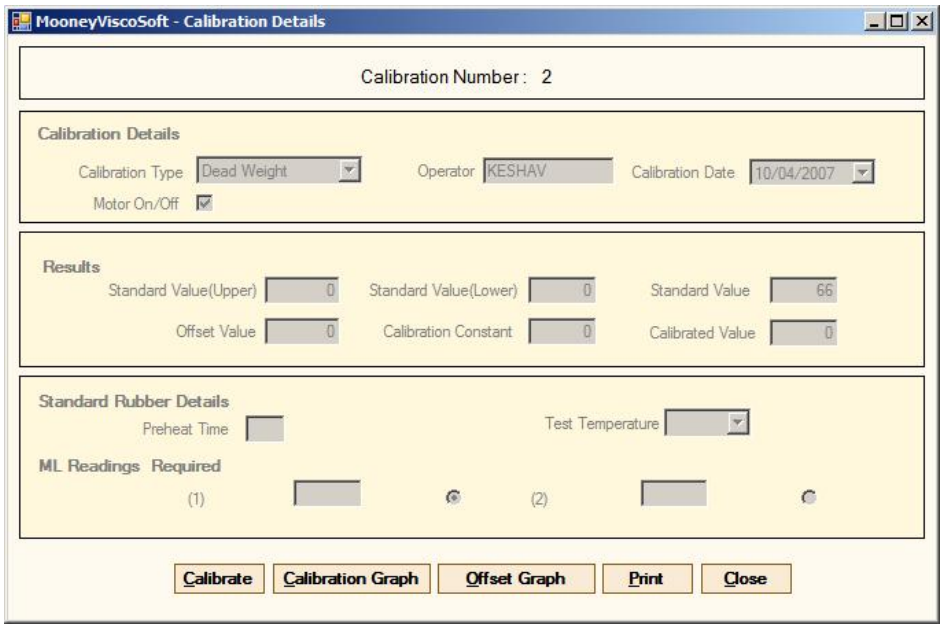
Preheat Time: Type the time for preheat relaxation test. (Only if above value is checked true)
Test Temperature Temperature at which the testis conducted.

ML Readings required This is test standard for Mooney values. Choose (1) or (2) values to be taken as test standard.

After typing all the details the screen shows.

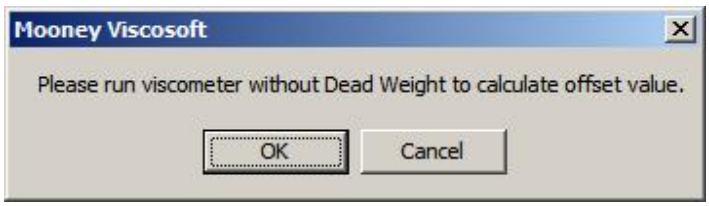


On pressing [Enter] on the last value the focus is placed on [Save]. On pressing [Save] button the details are saved and following screen is shown.

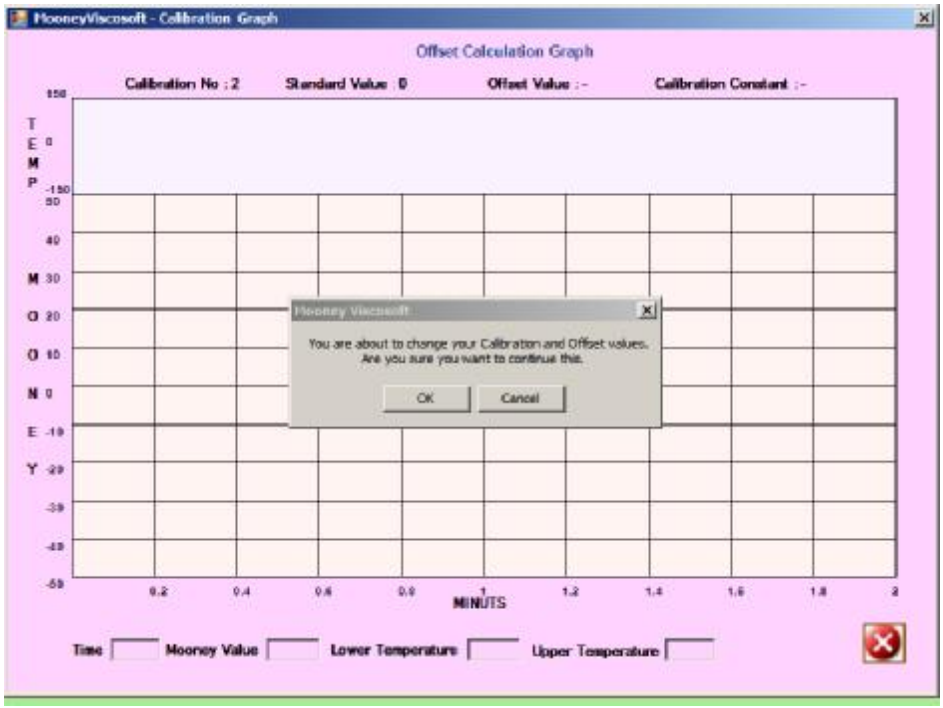


Calibration (Dead Weight)

Click on Calibrate to start the calibration procedure. Following screen is displayed

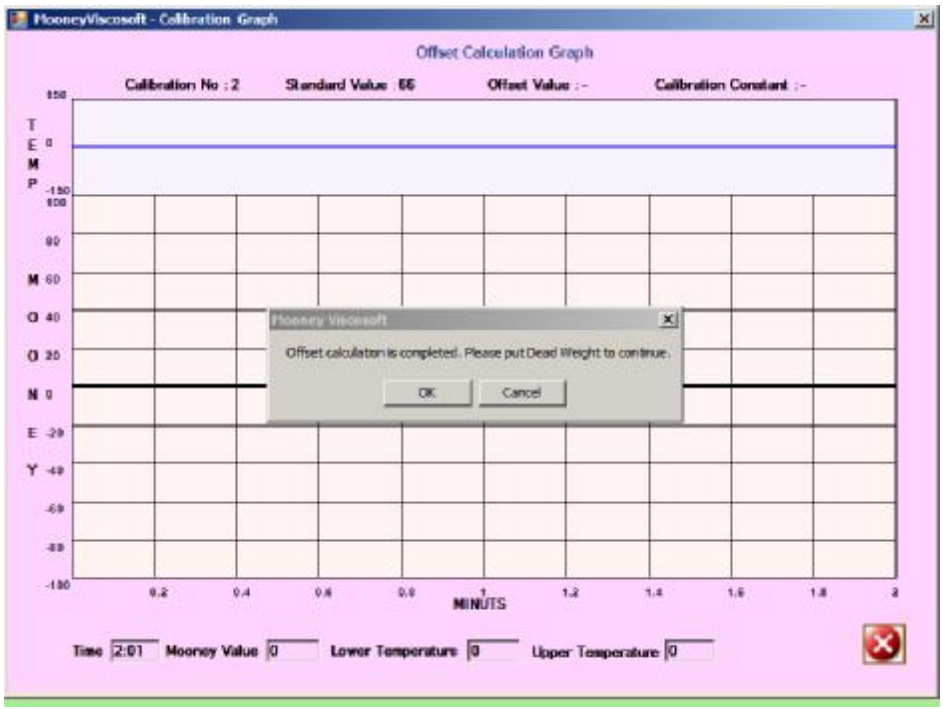


Start the viscometer without any dead weight and press OK. Following screen appears. The screen warns you about changing calibration. Click on OK to continue.



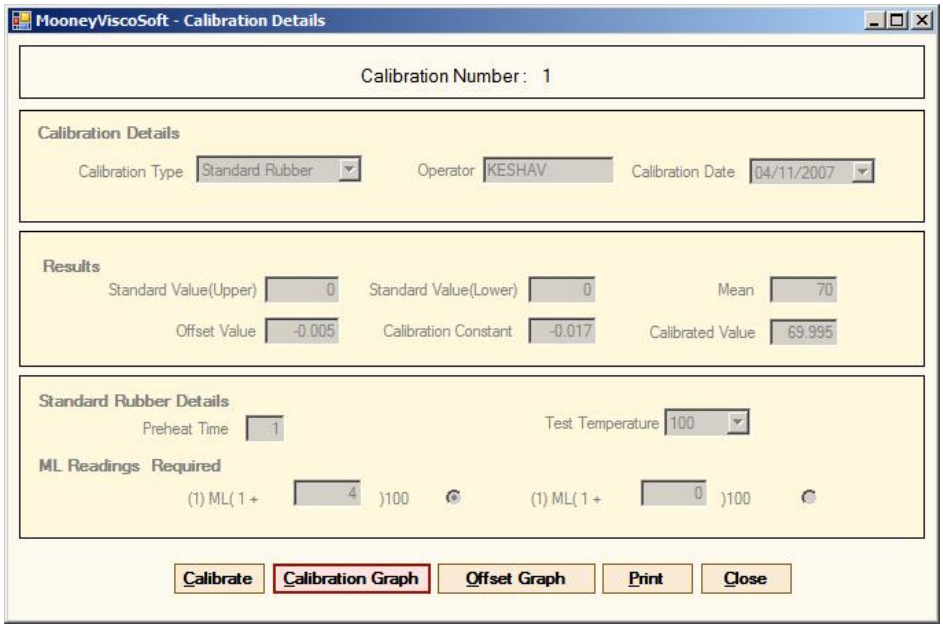
After completion of the offset calibration following screen is displayed.

The system will now ask to put **dead weight** to continue with next step of calibration. Hang the dead weight and click on OK to continue.



After the calibration is done on dead weight following graph is displayed. On clicking OK to continue the calibration constant and offset constants are calculated.

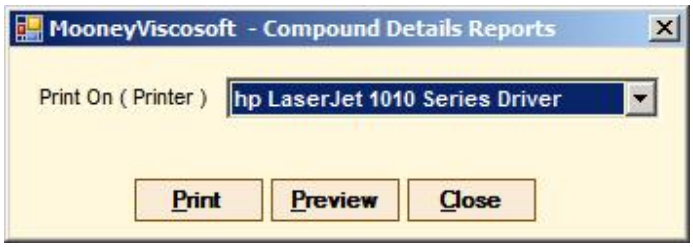
The calibration completes and following screen is shown.



The above screen shows the calculated calibration constant and offset value.

Following options are available of the screen.

Calibrate: Run calibration as done above
Calibration graph: Shows the calibration graph as shown above
Offset Graph: Shows the offset graph as shown above
Print: Prints Calibration graph. On clicking this option following screen is shown



The parameters in the above screen are

Print On (Printer): Select the printer on which you want to print the report. The options in the screen are

Print To print report on the selected printer.

Preview Show preview of the report before printing.

A report such as shown below is

Calibration (Standard Rubber)

The Calibration procedure for standard rubber is **same as dead weight** as explained above. Replace the dead weight with a rubber with known standards.

Setup

The setup options are main parameter setting option of the ViscoSoft package. These options need to be set only once. On clicking this option following screen appears:

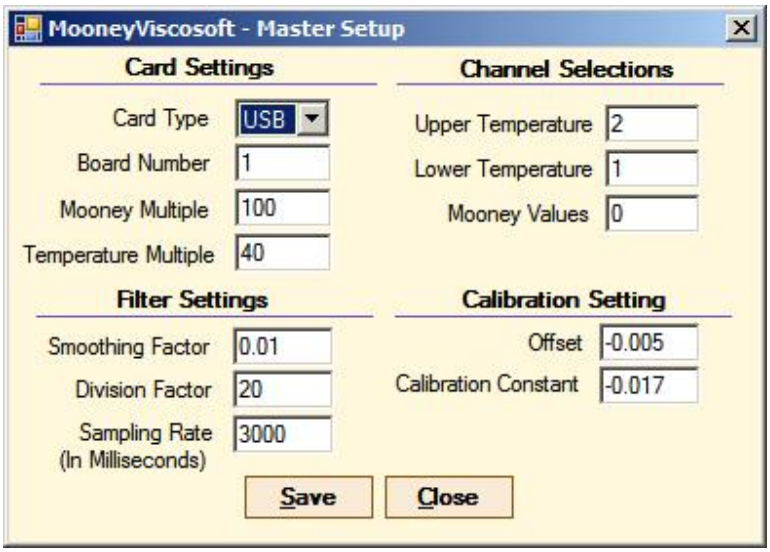
The options are

Master Setup	Sets master parameters
Graph Setup	Sets graph size and color
Printer and Report Heading setup	printer and reports parameter
Security Setup	Setup for security parameters
Change Password	Allows changing of passwords
Data Maintenance Plan	Sets automatic periodic data backup and compact plan
Company Information	Allows changing of company details
Company Machine information	Shows details of Mooney Machine Standards
Machine Machine information	Shows details of Mooney usage and machine maintenance plan

Master Setup

This options helps in setting up main master parameters. On clicking this option following password screen appears. Type the password to continue for the next screen. The Master setup parameters are main parameters and should be changed only by authorized users. These values are to be set only once.

On typing the password click on Ok. Following screen appears.



The values on this screen are

Card Settings:

Card Type: The value is set as **USB**. It is a device, which attaches Mooney Viscometer with PC.

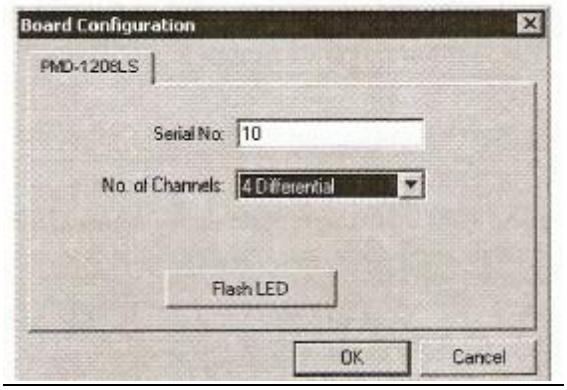
Board Number: This is board number of the attached device. Following are the instructions for finding and configuring device number. This is to be done after completing installation procedure of the software as per installation manual.

1. Click on **Start > Measurement Computing > InstaCal** to launch the Instacal Software A **Plug and play Board Detection dialog** appears, listing the PMD -1208LS. This dialog only displays when you install the device, or if you reinstall the device.

Plug and Play Board Detection
The following plug and play devices have been detected...
PMD-1208LS (serial# 1C)
Check those devices you wish to have added to the configuration file.
OK

2. Leave the check box next to the PMD 1208-LS item checked and click OK button to close the dialog. The dialog closes and PMD-1208 LS is added to the **PC board List** on the **instacal** main window.

3. Double click on the PMD-1208LS item listed below **Universal Serial Bus**. The **Board Configuration** dialog appears.



4. Pull down the **No. Of channel list** Box and select **8 Single ended** as the analog input configuration.

5. You can also check the USB Device connected by clicking on Flash LED. A LED on the USB device will flash three times. LED flashing means that the device is connected properly.

Mooney multiple: Should always be 100. Do not change this parameter.
Temperature Multiple Should always be 40. Do not change this parameter.

Channel selection

Upper Temperature Should always be 2. Should be changed only by FF.
Lower Temperature Should always be 1. Should be changed only by FF.
Mooney values: Should always be 0. Should be changed only by FF.

Filter Settings

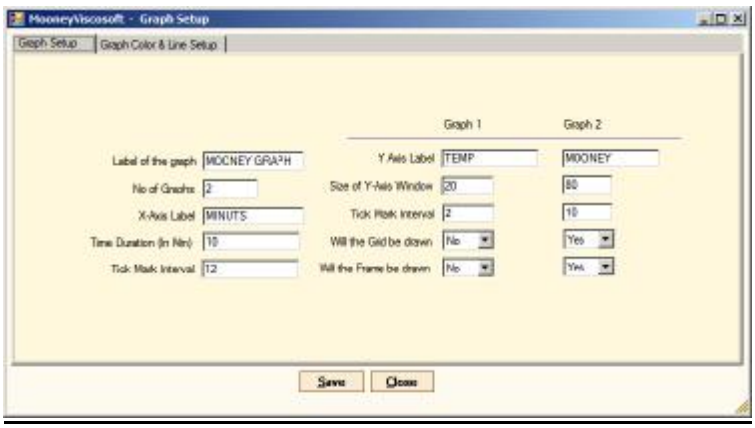
Smoothing factor A factor for smoothing of test graph. Should be changed only by FF.
Division factors A factor for showing of test graph. Should be changed only by FF.
Samplings rate A factor for testing of specimen. Should be changed only by FF.

Calibration Setting

Offset This parameter is set by Auto calibration. Should be changed only by FF.
Calibration constant This parameter is set by Auto calibration. Should be changed only by FF.

Graph Setup

This option helps in setting up specimen testing graph parameters. The parameters effect the test graph display on the screen. On clicking this option following screen appears. These values can be changed as requirements.



The parameters are divided into two parts namely graph setup, Graph color and line setup.

Graph setup

It contains following parameters

Label of the graph Name of the graph

No of graphs this value is always 2 and should not be changed.

X-Axis Label This value is X-axis label and should not be changed.

Time duration (in Min.) This value is standard value of x-axis size. This value changes as per compound.

Tick mark interval Tick mark interval for X-axis and should not be changed.

Graph1/Graph 2

Y-Axis label Name of Y-axis label as **Temp** and **Mooney** and should not be changed.

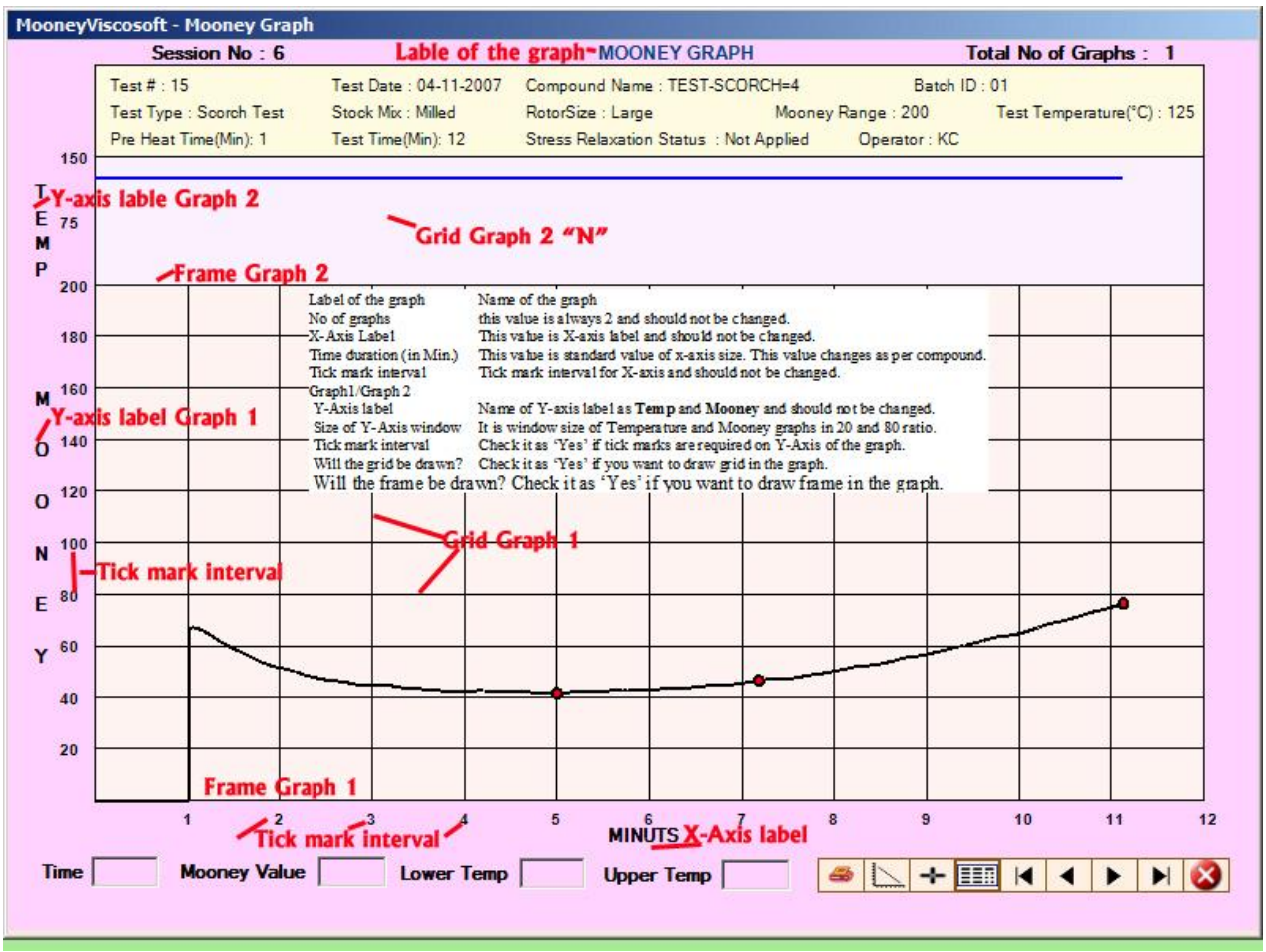
Size of Y-Axis window It is window size of Temperature and Mooney graphs in 20 and 80 ratio.

Tick mark interval Check it as 'Yes' if tick marks are required on Y-Axis of the graph.

Will the grid be drawn? Check it as 'Yes' if you want to draw grid in the graph.

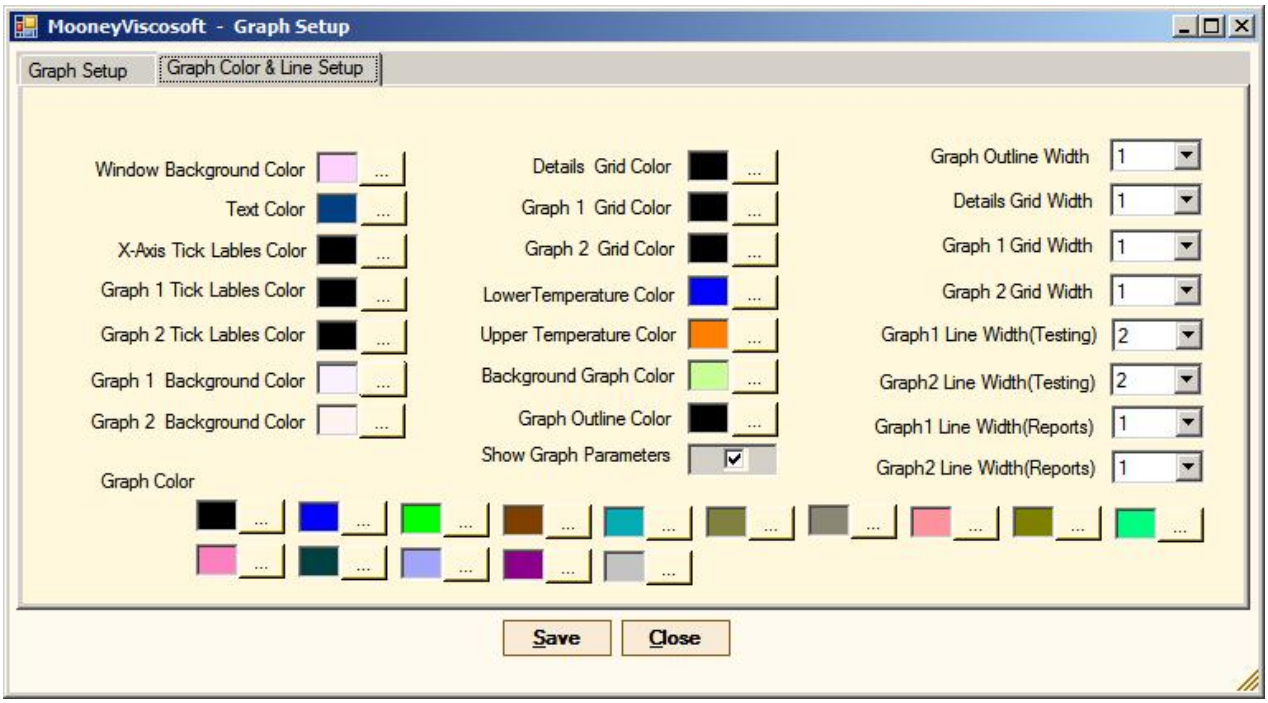
Will the frame be drawn? Check it as 'Yes' if you want to draw frame in the graph.

A presentation of the above parameter is shown below.


MooneyViscosoft - Mooney Graph
Session No : 6
Lable of the graph-MOONEY GRAPH
Total No of Graphs : 1
Test # : 15
Test Date : 04-11-2007
Compound Name : TEST-SCORCH=4
Batch ID : 01
Test Type : Scorch Test
Stock Mix : Milled
RotorSize : Large
Mooney Range : 200
Test Temperature(°C) : 125
Pre Heat Time(Min): 1
Test Time(Min): 12
Stress Relaxation Status : Not Applied
Operator : KC
Y-axis lable Graph 2
Grid Graph 2 "N"
Frame Graph 2
Label of the graph
Name of the graph
No of graphs
this value is always 2 and should not be changed.
X-Axis Label
This value is X-axis label and should not be changed.
Time duration (in Min.)
This value is standard value of x-axis size. This value changes as per compound.
Tick mark interval
Tick mark interval for X-axis and should not be changed.
Graph1/Graph 2
Y-Axis label
Name of Y-axis label as Temp and Mooney and should not be changed.
Size of Y-Axis window
It is window size of Temperature and Mooney graphs in 20 and 80 ratio.
Tick mark interval
Check it as 'Yes' if tick marks are required on Y-Axis of the graph.
Will the grid be drawn?
Check it as 'Yes' if you want to draw grid in the graph.
Will the frame be drawn? Check it as 'Yes' if you want to draw frame in the graph.
Y-axis label Graph 1
Grid Graph 1
Tick mark interval
Frame Graph 1
Tick mark interval
MINUTS X-Axis label
Time
Mooney Value
Lower Temp
Upper Temp

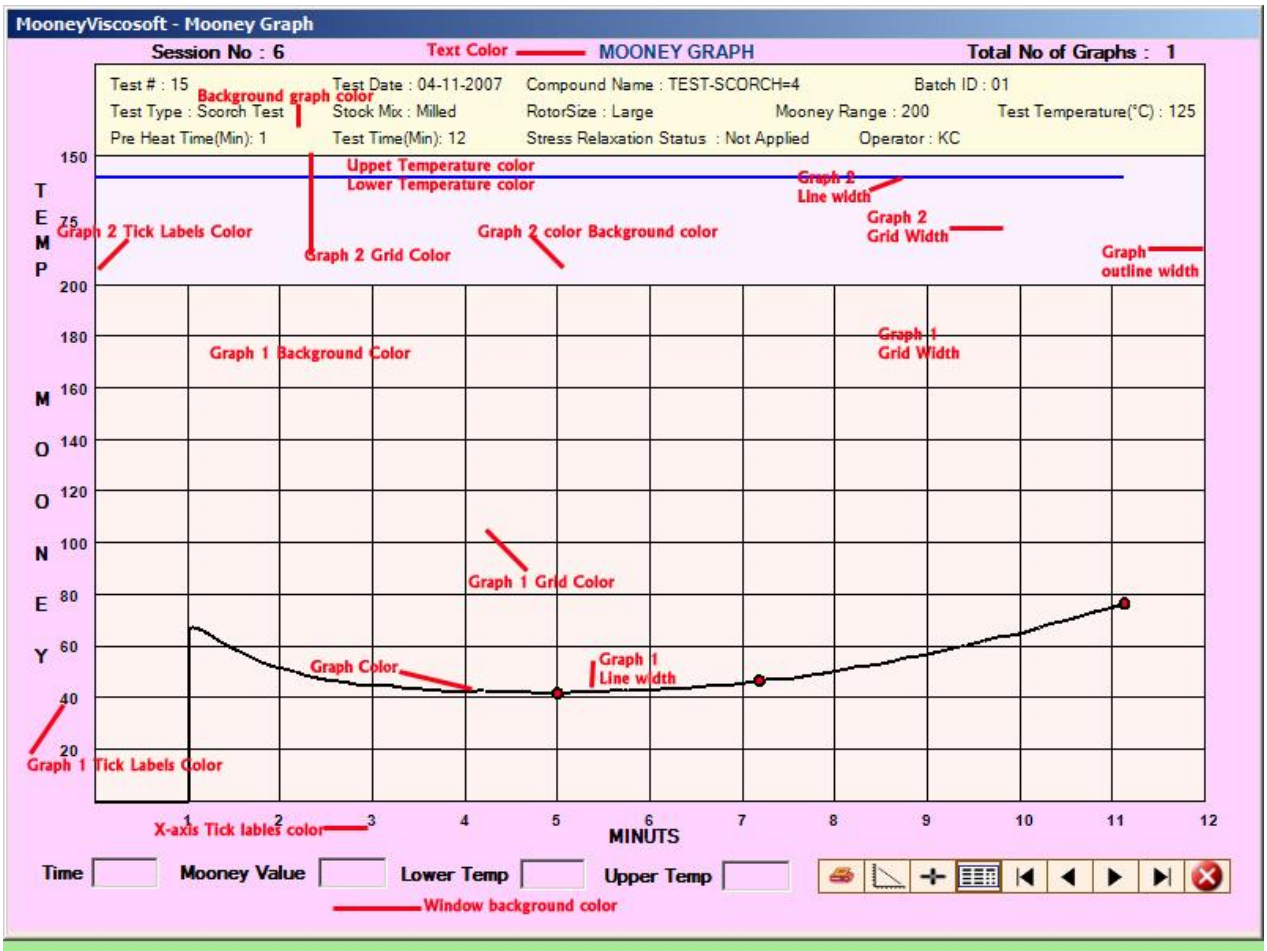
Graph Color and Line setup

This option sets the color and size of the test graph and lines.



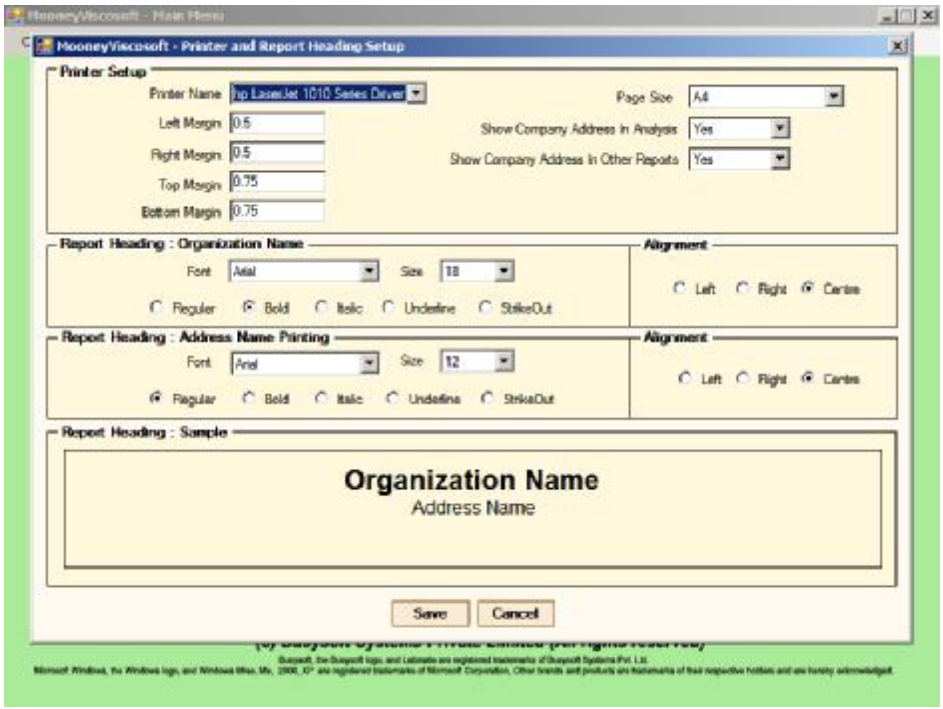
Windows Background color	Color of the graph window background
Text Color	Color of the text written on the graph
X-Axis tick labels Color	X-axis tick mark color
Graph 1 Tick labels color	Graph 1 Y-axis Tick mark color
Graph 2 Tick labels color	Graph 2 Y-axis Tick mark color
Graph 1 Background Color	Background color of the Graph 1
Graph 2 Background Color	Background color of the Graph 2
Details grid color	Background color of details
Graph 1 Grid color	Color of Graph 1 Grid
Graph 2 Grid color	Color of Graph 2 Grid
Lower Temperature Color	Color of the lower temperature line
Upper Temperature Color	Color of the Upper temperature
Background graph Color	Color of the background graph
Graph outline color	Color of the graph grid
Show graph parameters	Shows graph details
Graph outline width	Line Width of graph grid
Details grid width	Line width of the grid
Graph 1-Grid width	Line width of the Graph 1 grid
Graph 2-Grid width	Line width of the Graph 2 grid
Graph 1-line width Test	Line width of the graph 1 test result
Graph 2-line width Test	Line width of the graph 2-test result
Graph 1-line width Report	Line width of the graph 1 test result report
Graph 2-line width Report	Line width of the graph 2 test result report
Graph color	15 colors are available for displaying multiple graphs in different colors.

Following screen shows the color scheme of the test graph.



Printer and report heading setup

This options sets installed printer along with print margins for reports. On clicking this option following screen appears



The screen contains following details

Printer setup

Printer Name	Select the installed printer.
Left Margin	Left Margin of the paper
Right Margin	Right Margin of the paper
Top Margin	Top margin of the paper
Bottom Margin	Bottom Margin of the paper
Page Size	Size of the paper. This paper size should be smaller than paper size set on the printer setup under windows.
Show company address in analysis:	Tick mark as 'Yes' to print company name in report.
Show company address in other reports	Tick mark as 'Yes' to print address in reports.

Report heading: Organization Name

Select font name, size, type and alignment for printing organization name.

Report Heading: Address Name printing

Select font name, size, type and alignment for printing organization name.

Report Heading Sample

Shows the sample details as per the font set above.

Click on save to save the changes made. Click on close to drop changes.

Security setup

This option is for setting security for users. Manager can only open this option. The user id for manager is fixed as **MGR** and cannot be changed. On clicking this option following screen appears.

The screen shows a list of authorized users on the left. The details shown on this screen are

User Name Name of the authorized user
User ID ID of the User
Password User Password

The options in this screen are

Add Add new user

Save Save user options parameters

Delete Delete users

Show Password Show user passwords

Permissions Show user passwords

Close Quit this option and go back to previous option.

Add new user

Click on add to add new user in the above screen. Type various parameters as described below.

User Name: Type the user name to be created

User ID: Type the ID to be allotted to the user.

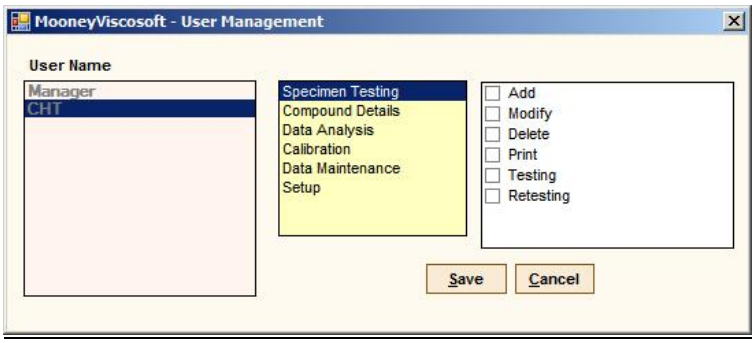
Password: Type a user password. The user can change this password later on.

Select various options, which the user is allowed to work on. Click on save to save the user details.

Setting User Permissions

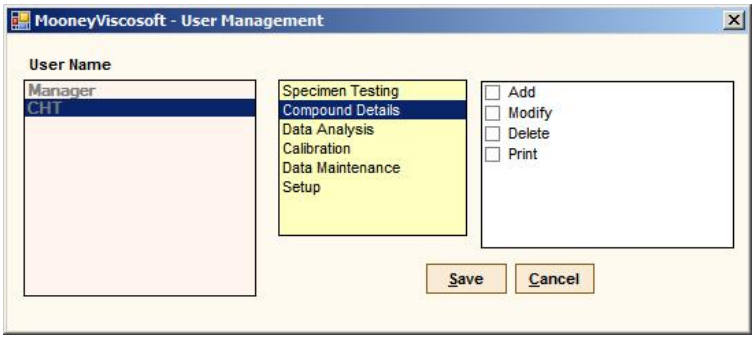
Click on permissions button to change user permissions. Following screen appears. Click on Check box as **R** to allow a user on a particular option.

Specimen testing permissions

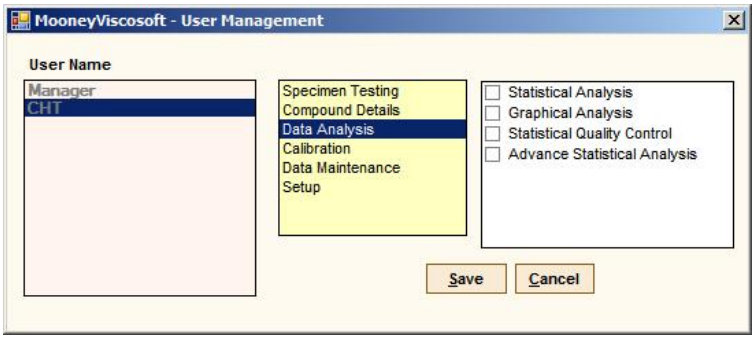


All the other user permission screens are as follows.

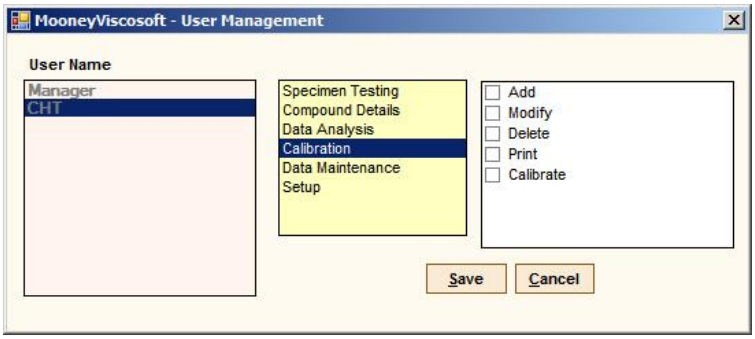
Compound Details permissions



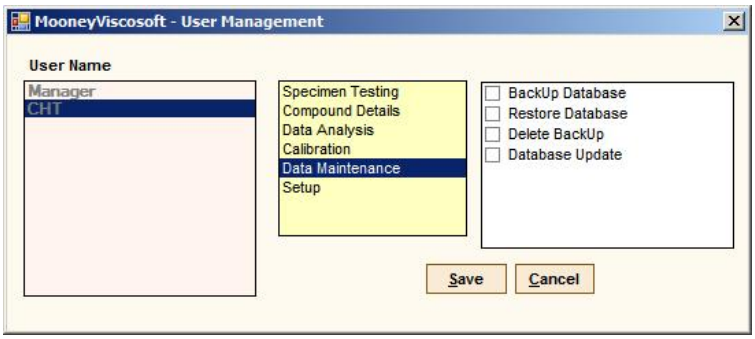
Data Analysis permissions



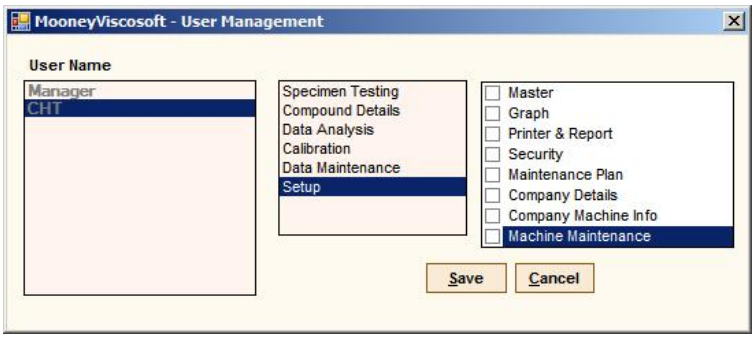
Calibration Permissions



Data Maintenance



Setup



Change password

The user can change the used password for better security. This option can be opened by a user only. Following screen appears on clicking this option.

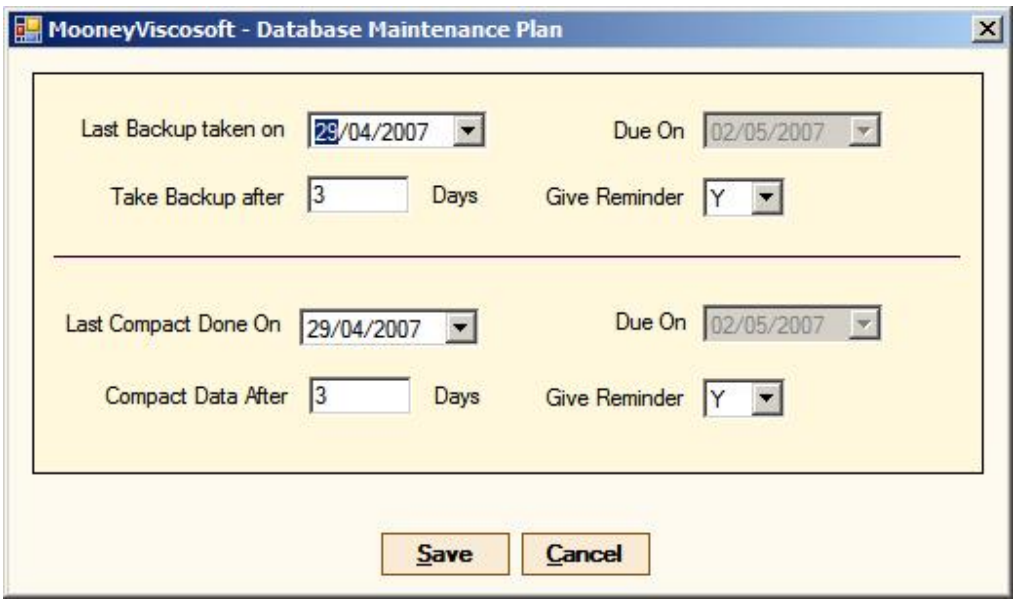
The option buttons on this screen are

Save: Click this button to save the password. User has to type a new password twice to change the password.

Cancel Quit and do not save password..

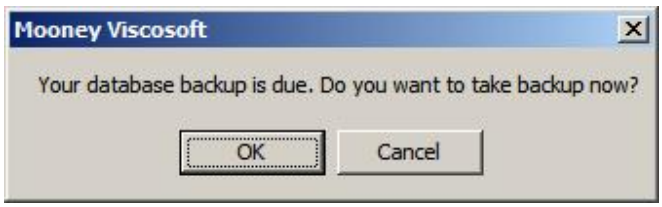
Data Maintenance Plan

This option is used to setup data backup and compact plan. User can set the data backup plan to take automatic backup to avoid data loss due to computer hardware failure. On clicking this option following screen appears.

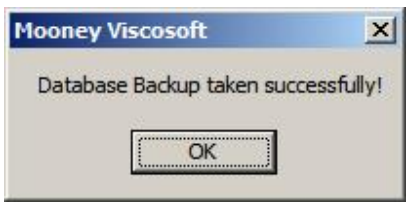


The information on this screen is:

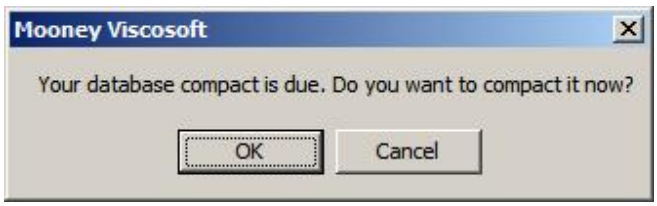
Last backup taken on Date of last backup taken
Take backup after Number of days after which next backup is to be taken
Due on Calculation of next due date
Give reminder As soon as the user start the program a message showing that the backup is due and The system will take the automatic backup.



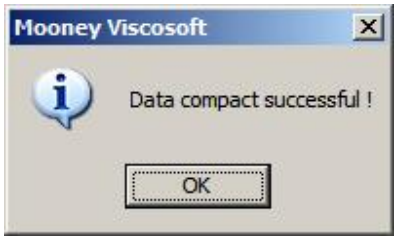
Click on Cancel if you do not want to take backup. Click on 'OK' to take backup.
On completion of backup following screen appears.



Last compact Done on Date of last data compact done (This helps in increasing performance of the software)
Compact data after Number of days after which next compact is to be done
Due on Calculation of next due date
Give reminder As soon as the user start the program a message showing that the compact (repair) is due and The system will do the compact (repair) automatically.



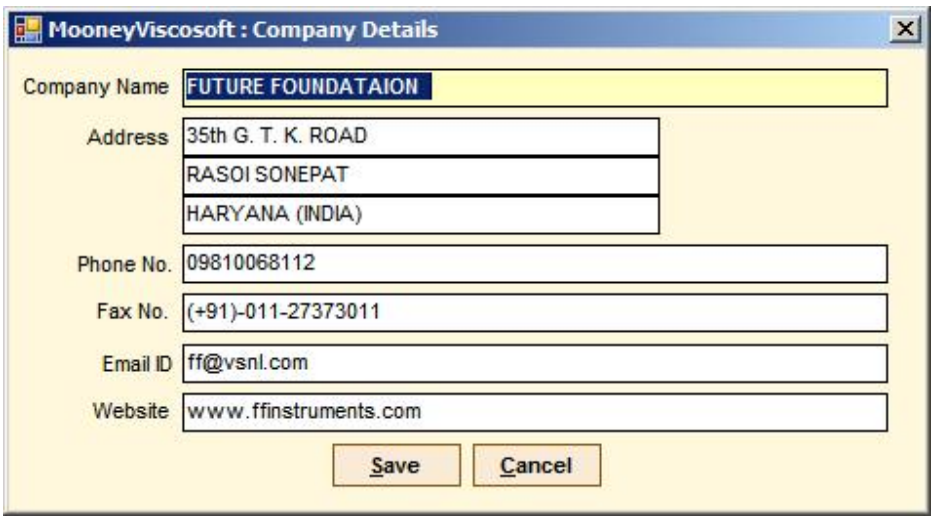
Click on Cancel if you do not want to compact data. Click on ‘OK’ to start compacting
On completion of compact following screen appears.



Warning: During compacting and repair or data backup make sure that no power supply failure occurs.

Company Information

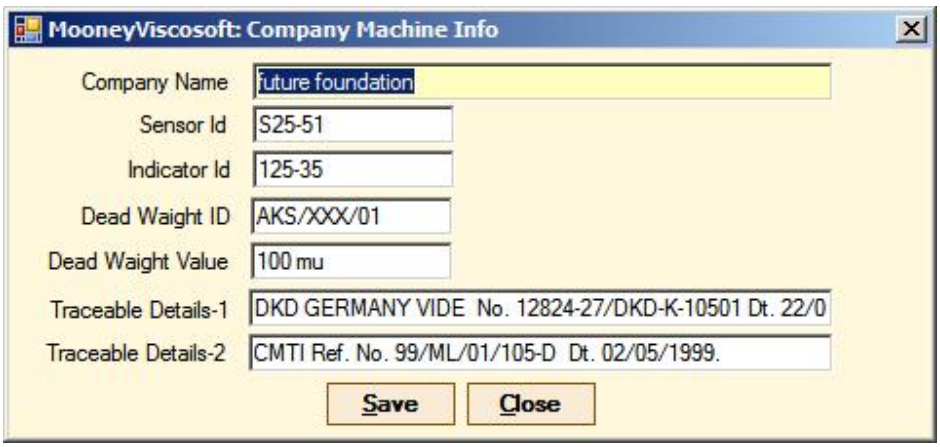
This option sets up user company details and parameters. The company details and parameters are shown and printed on various reports. On clicking this option following screen appears.



Type the various parameters and click on **Save** to save the parameters. This is the user company name, address and other details. These details are printed on the reports.

Company Machine Information

This option contains information on supplied machine to you. On clicking this option following screen appears.

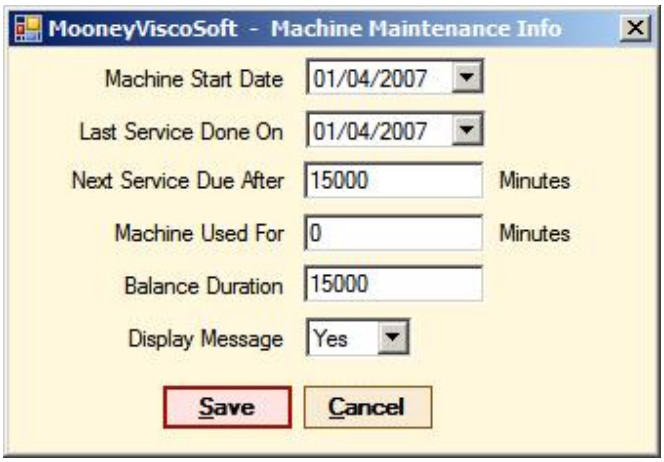


The FF executive on installation fills this information. Do not change this information.

Machine Maintenance Information

This option contains information on daily machine usage. On clicking this option following screen appears.

The FF executive on installation fills this information. Do not change this information



The main details for interest to the user are.

Last service did on:	Date of last servicing of the machine.
Next service due after	Period after which next service will be due
Machine used for	Period of usage after last servicing done
Balance duration	Balance duration period for maintenance
Display message	The software will display message as soon as the machine is due for maintenance.

Specimen reports

Note : The reports are for general presentation and may not contain actual data.

FUTURE FOUNDATAION

35th G. T. K. ROAD
RASOI SONEPAT
HARYANA (INDIA)

TEST REPORT

Mooney Viscosoft | Test # : 3 | Testing Date:10-04-2007 | Page 1 | 30-04-2007

Test Details

Session #	1	Operator	KESHAV CHAUHAN	Batch Id	3

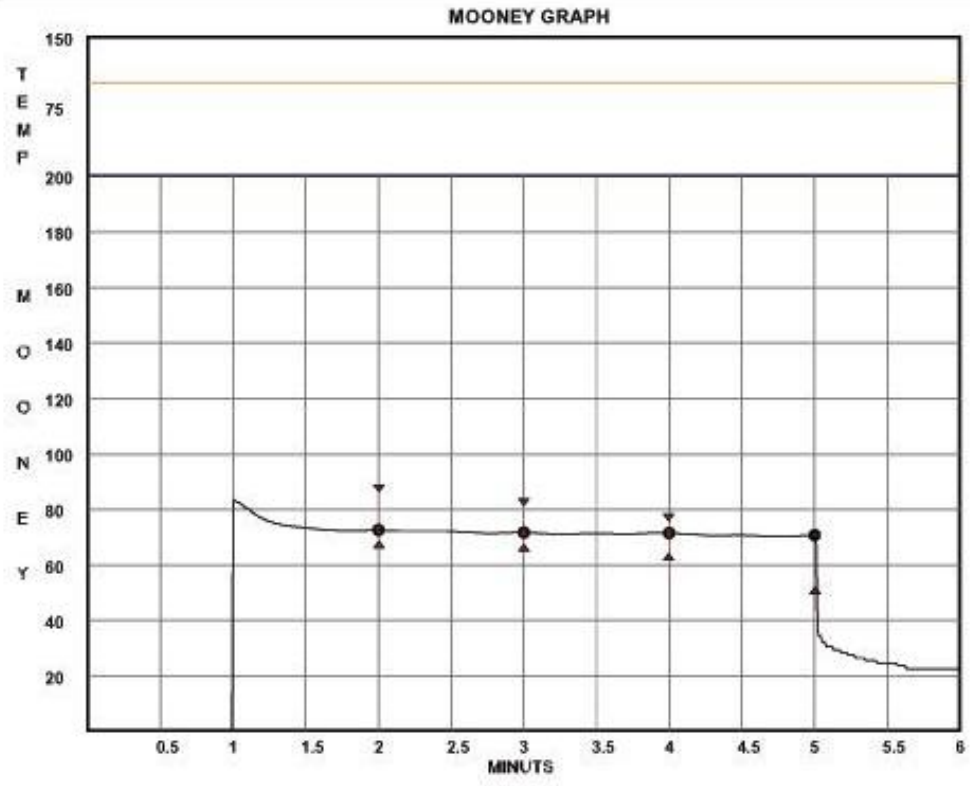
Compound Details

Compound Name	TEST-VISCOCITY			Preheat Time(Min)	1
Stock Mix	UnMilled	Test Temperature(°C)	100	Rotor Size	Large
Duration(Min)	6	Test Type	Viscosity Test	Mooney Range	200

Test Results

Test Condition : Tested | Pass/fail : Fail

1) ML((1 + 1)100	72.441	Initial Mooney	83.008	Stop Time(Min)	6
2) ML((1 + 2)100	71.441	Minimum Mooney	70.016	End Temperature(°C)	101
3) ML((1 + 3)100	71.297				
4) ML((1 + 4)100	70.509				



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HARYANA (INDIA)

STRESS RELAXATION DATA ANALYSIS REPORT

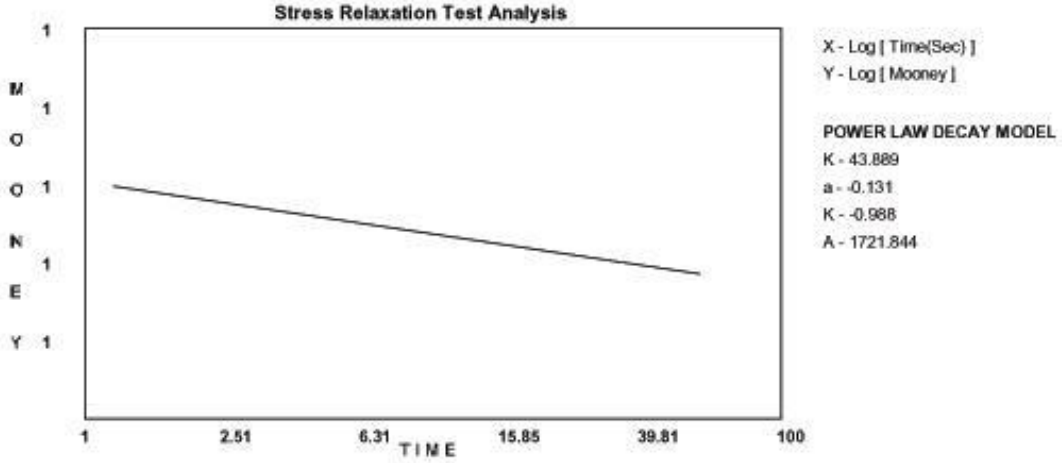
Mooney Viscosoft | Test # : 1 | Testing Date:10-04-2007 | Page 1 | 30-04-2007

Test Details

Session #	1	Operator	KESHAV CHAUHAN	Batch Id	A1

Compound Details

Compound Name	TEST-VISCOCITY			Preheat Time(Min)	1
Stock Mix	UnMilled	Test Temperature(°C)	100	Rotor Size	Large
Duration(Min)	6	Test Type	Viscosity Test	Mooney Range	200



Test Time	Log(Test Time)	Mooney	Log(Mooney)
1.20	0.08	41.02	1.61
2.40	0.38	38.09	1.58
3.60	0.56	37.11	1.57
6.00	0.78	34.18	1.53
9.60	0.98	33.20	1.52
13.20	1.12	30.27	1.48
16.80	1.23	30.27	1.48
22.20	1.35	29.30	1.47
29.40	1.47	28.32	1.45
36.60	1.56	26.37	1.42
51.00	1.71	24.41	1.39
58.20	1.76	24.41	1.39

FUTURE FOUNDATAION

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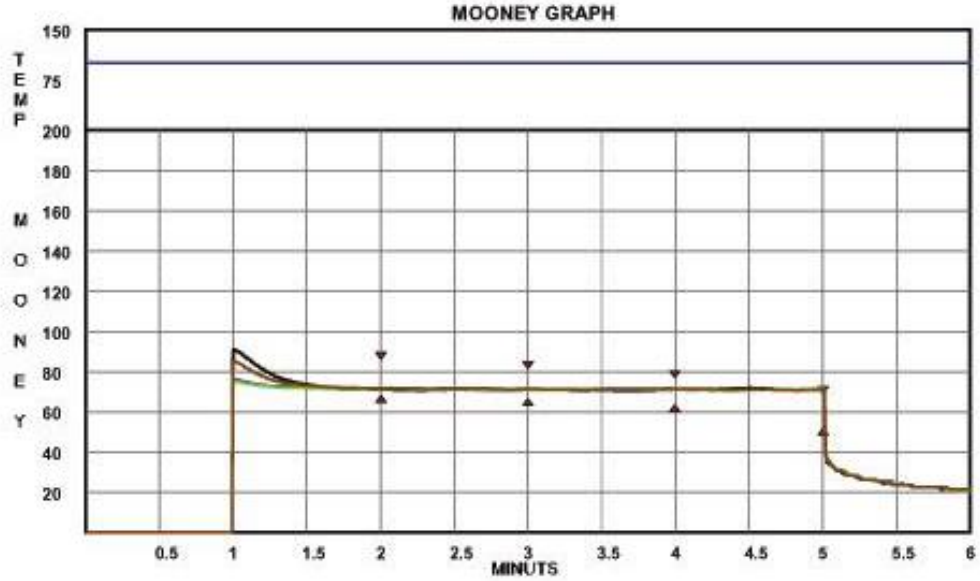
HARYANA (INDIA)

STATISTICAL ANALYSIS REPORT

FF-Mooney Viscosoft | From 11/04/2007 To 11/04/2007 | Page - 1 | 30/04/2007

Compound Name	TEST-VISCOCITY			**Test Type**	Viscosity Test
Stock Mix	UnMilled	**Test Temperature(°C)**	100	**Rotor Size**	Large
Mooney Range	200	**Test Duration(Min)**	6	**Preheat Time(Min)**	1

MOONEY GRAPH



	Initial Mooney	Min. Mooney	ML(1+1)100	ML(1+2)100	ML(1+3)100	ML(1+4)100
Lower Range			69	68	65	53
Upper Range			85	80	75	68
Total (N)	4	4	4	4	4	4
Range	15.62	0.23	0.47	0.54	0.43	0.49
Mean	81.79	70.61	71.48	71.08	71.2	71.17
Sigma	7.45	0.1	0.21	0.25	0.21	0.21
LSD (5%)	78.56	0.01	0.06	0.09	0.06	0.06
Coef. of Variance	9.11	0.14	0.29	0.35	0.29	0.3

Test No.	Batch	Date	Initial Mooney	Min. Mooney	ML(1+1)100	ML(1+2)100	ML(1+3)100	ML(1+4)100
9	7	11-04-2007	90.82	70.569	71.228	71.212	71.098	71.056
10	1	11-04-2007	76.172	70.5	71.598	70.913	71.084	71.228
11	2	11-04-2007	75.195	70.651	71.405	70.823	71.099	71.438
12	3	11-04-2007	84.961	70.726	71.698	71.368	71.51	70.949

FUTURE FOUNDATAION

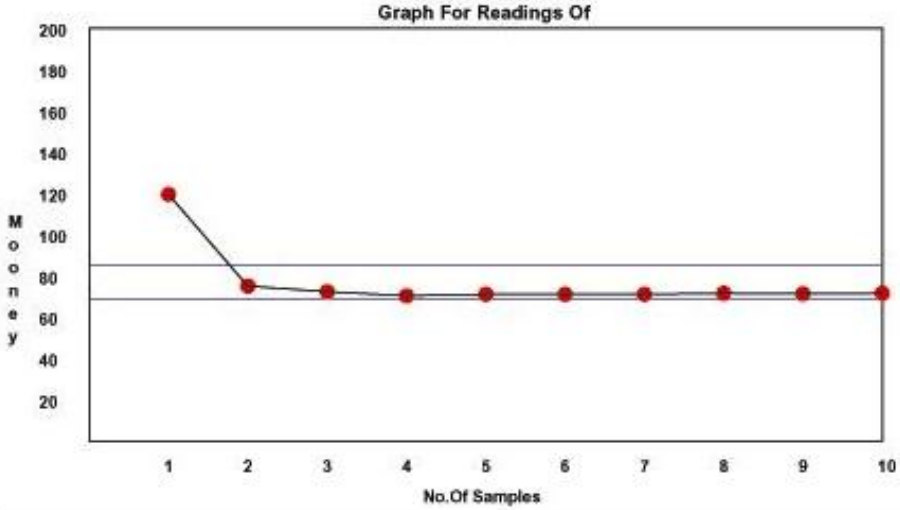
35th G. T. K. ROAD
RASOI SONEPAT
HARYANA (INDIA)

GRAPHICAL ANALYSIS REPORT

FF-Mooney Viscosoft | From 10/04/2007 To 11/04/2007 | Page - 1 | 30/04/2007

Compound Name	TEST-VISCOCITY			**Test Type**	Viscosity Test
Stock Mix	UnMilled	**Test Temperature**	100	**Rotor Size**	Large
Mooney Range	200	**Test Duration**	6	**Preheat Time**	1 Min

Graph For Readings Of



ML(1+1)100

Lower Range	69
Upper Range	85
Total (N)	10
Range	49.08
Mean	76.62
Sigma	15.16
LSD (5%)	205.67
Coef. of Variance	19.79

Test No	Batch ID	Date	
1	A1	10-04-2007	119.616
2	3	10-04-2007	75.232
3	3	10-04-2007	72.441
4	3	10-04-2007	70.535
7	5	10-04-2007	71.252
8	1	10-04-2007	71.148
9	7	11-04-2007	71.228
10	1	11-04-2007	71.598
11	2	11-04-2007	71.405
12	3	11-04-2007	71.698

FUTURE FOUNDATAION

35th G. T. K. ROAD
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HARYANA (INDIA)

STATISTICAL ANALYSIS REPORT

FF-Mooney Viscosoft | From 10/04/2007 To 11/04/2007 | Page - 1 | 30/04/2007

Compound Name	TEST-VISCOCITY			**Test Type**	Viscosity Test
Stock Mix	UnMilled	**Test Temperature(°C)**	100	**Rotor Size**	Large
Mooney Range	200	**Test Duration(Min)**	6	**Preheat Time(Min)**	1

	Initial Mooney	Min. Mooney	ML(1+1)100	ML(1+2)100	ML(1+3)100	ML(1+4)100
Lower Range			69	68	65	53
Upper Range			85	80	75	68
Total (N)	10	10	10	10	10	10
Range	73.24	6.05	49.08	15.88	5.84	5.7
Mean	88.18	71.1	76.62	72.84	71.8	71.65
Sigma	21.94	1.77	15.16	4.83	1.77	1.7
LSD (5%)	430.49	2.8	205.67	20.88	2.82	2.8
Coef. of Variance	24.88	2.49	19.79	6.63	2.47	2.37
1.Sigma%Reading	90	90	90	90	90	90
2.Sigma%Reading	0	0	0	0	0	0
3.Sigma%Reading	10	10	10	10	10	10

Test No.	Batch	Date	Initial Mooney	Min. Mooney	ML(1+1)100	ML(1+2)100	ML(1+3)100	ML(1+4)100
1	A1	10-04-2007	148.438	75.762	119.616	86.315	76.423	76.211
2	3	10-04-2007	89.844	72.285	75.232	73.95	73.154	72.577
3	3	10-04-2007	83.008	70.016	72.441	71.441	71.297	70.509
4	3	10-04-2007	77.148	69.711	70.535	70.454	70.581	70.572
7	5	10-04-2007	81.055	70.333	71.252	70.77	71.138	70.892
8	1	10-04-2007	75.195	70.491	71.148	71.179	70.622	71.023
9	7	11-04-2007	90.82	70.569	71.228	71.212	71.098	71.056
10	1	11-04-2007	76.172	70.5	71.598	70.913	71.094	71.228
11	2	11-04-2007	75.195	70.651	71.405	70.823	71.099	71.438
12	3	11-04-2007	84.961	70.726	71.698	71.368	71.51	70.949

FUTURE FOUNDATION

35th K.M. G.T.Karnal Road,Village Rasoi-131026,Distt. Sonepat,Haryana

Phone:011-27374402 Fax:011-27136894(R)011-27136893 Fax:011-27136894 Mobile:9810068112

Email:ff@vsnl.com

CALIBRATION REPORT

Ref: FF/MOONEYCAL/ 04-11-2007

Calibration of Mooney Viscometer sensor and indicator done against calibrated torque sensor and indicator whose calibration is traceble to :

DKD GERMANY VIDE No. 12824-27/DKD-K-10501 Dt. 22/06/1999 And

And

CMTI Ref. No. 99/ML/01/105-D Dt. 02/05/1999.

Calibration done for : FUTURE FOUNDATAION

Torque sensor identification No : S25-51

Torque Indicator identification No : 125-35

STANDARD RUBBER VALUES

Offset Value(+/-) :-0.005

	Tested Value
(1) ML(1 + 1)100	0

This certificate refers to values obtained at the time of calibration.

It is well within the specified accuracy.

For Future Foundation.

(Authorised Signatory)

FUTURE FOUNDATAION

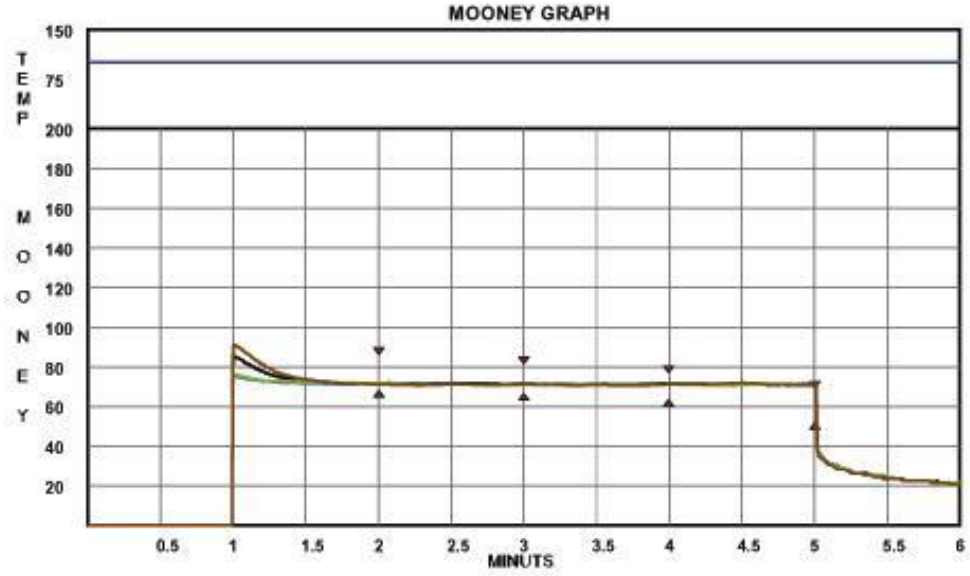
35th G. T. K. ROAD
RASOI SONEPAT
HARYANA (INDIA)

STATISTICAL ANALYSIS REPORT

FF-Mooney Viscosoft | From 01/01/0001 To 01/01/0001 | Page - 1 30/04/2007

Compound Name	TEST-VISCOCITY			**Test Type**	Viscosity Test
Stock Mix	UnMilled	**Test Temperature(°C)**	100	**Rotor Size**	Large
Mooney Range	200	**Test Duration(Min)**	6	**Preheat Time(Min)**	1

MOONEY GRAPH



	Initial Mooney	Min. Mooney	ML(1+1)100	ML(1+2)100	ML(1+3)100	ML(1+4)100
Lower Range			69	68	65	53
Upper Range			85	80	75	68
Total (N)	4	4	4	4	4	4
Range	15.62	0.23	0.47	0.54	0.43	0.49
Mean	81.79	70.61	71.48	71.08	71.2	71.17
Sigma	7.45	0.1	0.21	0.25	0.21	0.21
LSD (5%)	78.56	0.01	0.06	0.09	0.06	0.06
Coef. of Variance	9.11	0.14	0.29	0.35	0.29	0.3

Test No.	Batch	Date	Initial Mooney	Min. Mooney	ML(1+1)100	ML(1+2)100	ML(1+3)100	ML(1+4)100
12	3	11-04-2007	84.961	70.726	71.698	71.368	71.51	70.949
11	2	11-04-2007	75.195	70.651	71.405	70.823	71.099	71.438
10	1	11-04-2007	76.172	70.5	71.598	70.913	71.084	71.228
9	7	11-04-2007	90.82	70.569	71.228	71.212	71.098	71.056

FUTURE FOUNDATAION

35th G. T. K. ROAD
RASOI SONEPAT
HARYANA (INDIA)

COMPOUND DETAILS REPORT

COMPOUND DETAILS

Compound Name	TEST-VISCOCITY			**Test Type**	Viscosity Test
Rotor Size	Large	**Stock Mix**	UnMilled	**Test Teprature(°C)**	100
Mooney Range	200	**Test Duration(Min)**	6	**Preheat Time(Min)**	1

ML READINGS REQUIRED

1) ML(1 + 1)100	**2) ML(1 + 2)100**
3) ML(1 + 3)100	**4) ML(1 + 4)100**

QUALITY CONTROL GATES LIMITS

	Lower	Upper	Gate	Pass Fail Limits
1) ML(1 + 1)100	69	85	Applied	Not Applied
2) ML(1 + 2)100	68	80	Applied	Not Applied
3) ML(1 + 3)100	65	75	Applied	Applied
4) ML(1 + 4)100	53	68	Applied	Applied

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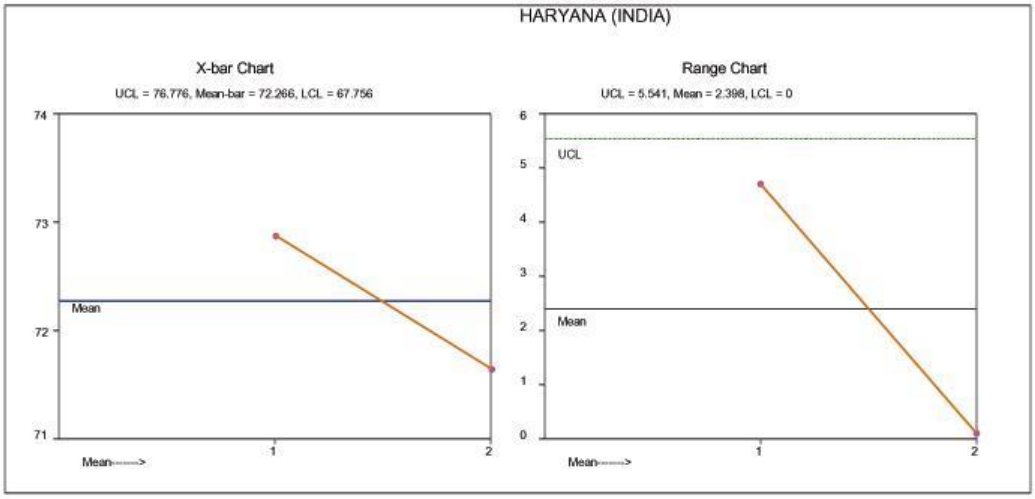

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HARYANA (INDIA)

Control Charts

Stock : TEST-VISCOCITY	Parameter : ML(1 + 1)100	Date From 10/04/2007 To 11/04/2007	Page No. 1

Date	1	2	Sum	X-bar	Range	Sigma
10/04/2007	75.232	70.535	145.767	72.884	4.697	3.321
11/04/2007	71.598	71.698	143.296	71.648	0.1	0.071

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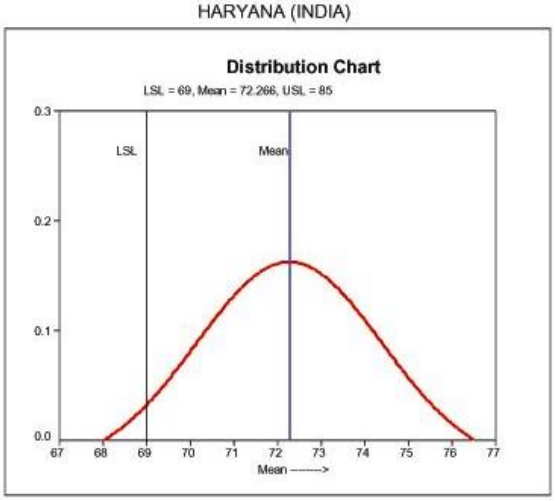

Range-bar = 2.398 | Sigma-bar = 2.126 | Left tail = 65.888 | Right tail = 78.644 | Z-upper = 5.99 | Z-lower = 1.536 | Cp = 1.254 | Cpk = 0.512

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Capability Analysis

Stock : TEST-VISCOCITY **Parameter : ML(1 + 1)100** **Date From 10/04/2007 To 11/04/2007** **Page No. 1**

Date	1	2	Sum	X-bar	Range	Sigma
10/04/2007	75.232	70.535	145.767	72.884	4.697	3.321
11/04/2007	71.598	71.698	143.296	71.648	0.1	0.071

Busysoft

We make software that works as per you

Future Foundation

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